

# INDIANA RESIDENTIAL CODE



2001 EDITION

675 IAC 14-4.2

*Amended and effective on March 24, 2004*

## Rule 4.2. The Indiana Residential Code

### Adoption by reference; title; availability; purpose

Sec. 1. (a) That certain document being titled the International Residential Code for One and Two Family Dwellings published by the International Code Council, 5203 Leesburg Pike, Suite 708, Falls Church, Virginia 22041-3401, is hereby adopted by reference as if fully set out in this rule save and except those revisions made in this rule.

(b) This rule shall be known as the Indiana Residential Code, 2001 edition, and shall be published, except incorporated documents, by the fire and building services department for general distribution and use under that title. Wherever the term "this code" is used throughout this rule, it shall mean the Indiana Residential Code, 2001 edition.

(c) This rule is available ~~from~~ **for reference and review** at the Fire and Building Services Department, Indiana Government Center-South, 402 West Washington Street, Room ~~E224~~, **W246**, Indianapolis, Indiana 46204.

(d) The purpose of this code is to provide minimum requirements for safety and to safeguard property, ~~and public safety, and general welfare through affordability,~~ by regulating and controlling the design, construction, installation, and quality of materials of residential structures as regulated by this code. (675 IAC 14-4.2-1) Eff March 24, 2004

### Chapter 1; administration

Sec. 2. Delete Chapter 1 and substitute as follows:

(a) SECTION R101 Application is added to read as follows:

#### SECTION R101 APPLICATION

The provisions of this code apply to the construction, prefabrication, alteration, addition, and remodel of detached one (1) or two (2) family dwellings and one (1) family townhouses not more than three (3) stories in height and their accessory structures.

This code does not apply to manufactured homes as defined in SECTION R202, SECTION AE201, and IC 22-12-1-16 except as addressed in APPENDIX E.

This code does not apply to mobile structures as defined in IC 22-12-1-17.

Townhouses are classified as Class 1 structures and detached one (1) and two (2) family dwellings and their accessory structures are classified as Class 2 structures.

#### SECTION R105 ADDITIONS AND ALTERATIONS

Provisions in the appendices are not enforceable unless specifically adopted.

The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

EXCEPTION: Where ~~the enforcement of a code provision would violate the conditions of the listing of the equipment, or appliance, or certification of~~ **engineered products by a registered architect registered under IC 25-4 or a professional engineer registered under IC 25-31, the conditions of listing, and manufacturer's instructions, or professional certification by a registered architect or professional engineer shall apply.**

(b) SECTION R102 is added to read as follows:

#### SECTION R102 APPEALS AND INTERPRETATIONS

Appeals from orders issued by the Fire Prevention and Building Safety Commission or the state building commissioner are governed by IC 4-21.5 and IC 22-12-7. Appeals from orders by a local unit of government are governed by IC 22-13-2-7 and local ordinance. Upon the written request of an interested person, the office of the state building commissioner may issue a written interpretation of a building law. The written interpretation as issued under IC 22-13-5 binds the interested person and the county or municipality with whom the interested person has the dispute until overruled under IC 4-21.5. **A written interpretation of a building law binds all counties and municipalities if the office of the state building commissioner publishes the written interpretation of the building law in the Indiana Register under IC4-22-7-7(b).**

(c) SECTION R103 is added to read as follows:

#### SECTION R103 PLANS

Plans shall be submitted for Class 1 structures as required by the General Administrative Rules (675 IAC 12-6) and for Class 2 structures as required by local ordinance.

(d) SECTION R104 is added to read as follows:

#### SECTION R104 EXISTING CONSTRUCTION

For existing construction see the General Administrative Rules (675 IAC 12-4) and local ordinance.

(e) SECTION R105 is added to read as follows:

Additions and alterations to any structure shall conform to

that required for a new structure without requiring the existing structure to comply with all the requirements of this code. Additions or alterations shall not cause an existing structure to become unsafe.

(f) SECTION R106 is added to read as follows:

#### SECTION R106 ALTERNATIVE MATERIALS, METHODS, AND EQUIPMENT

##### SECTION R106.1 ALTERNATE MATERIALS, METHODS, AND EQUIPMENT

The provisions of this code are not intended to limit the appropriate use of materials, appliances, equipment, or methods of design or construction not specifically prescribed by this code provided the building official determines that the proposed alternate materials, appliances, equipment, or methods of design or construction are at least equivalent of that prescribed in this code in suitability, quality, strength, effectiveness, fire resistance, durability, dimensional stability, safety, and sanitation. For Class 1 structures, alternate materials, methods, equipment, and design shall be as required by the General Administrative Rules (675 IAC 12-6-11). Compliance with specific provisions of the Indiana Building Code (675 IAC 13) or the Indiana Plumbing Code (675 IAC 16) in lieu of the requirements of this code shall be permitted as an alternate.

##### SECTION R106.2 EVIDENCE

The building official may require that evidence or proof be submitted to substantiate any claims that may be made regarding the proposed alternate.

##### SECTION R106.3 TESTS

Determination of equivalence shall be based on design or test methods or other such standards. The building official may accept as supporting data to assist in this determination duly authenticated reports from the Building Officials and Code Administrators International, Inc., Southern Building Code Congress International, Inc., International Conference of Building Officials, the International Code Council, Inc., or their successors, or acceptance documents from the U. S. Department of Housing and Urban Development, **the certification of a registered architect registered under IC 25-4 or a professional engineer registered under IC 25-31,** or the General Administrative Rules (675 IAC 12).

(g) SECTION R107 is added to read as follows:

#### SECTION R107 WORKMANSHIP

General Workmanship. All construction methods shall be accepted practices to ensure livable and safe housing and shall demonstrate acceptable workmanship. (675 IAC 14-4.2-2)  
Eff March 24, 2004

## Section R202; definitions

Sec. 3. Change SECTION R202 Definitions as follows: (a) Change the definition of ACCESSORY STRUCTURE to read as follows: In one and two family dwellings and for the purpose of APPENDIX E, structures not more than three (3) stories high with separate means of egress, and the use of which is incidental to that of the main building and which is located on the same lot.

(b) Change the definition of ALTERATION by deleting "other than repair".

(c) Change APPROVED to read as follows: APPROVED means, as to materials, equipment, and types of construction, acceptance by the building official by one (1) of the following methods:

- (1) investigation or tests conducted by recognized authorities; ~~or~~
- (2) investigation or tests conducted by technical or scientific organizations; or
- (3) accepted principles.

The investigation, tests, or principles shall establish that the materials, equipment, and types of construction are safe for their intended purpose.

(d) Change the definition of BUILDING, EXISTING to read as follows: BUILDING, EXISTING. Existing building is a building or structure erected prior to the adoption of this code.

(e) Change the definition of BUILDING OFFICIAL to read as follows: BUILDING OFFICIAL, as used in this code, shall be the local official or officials as designated in local ordinance, except it shall be the state building commissioner for Industrialized Building Systems under 675 IAC 15 and IC 22-15 and for plan review for townhouses under 675 IAC 12 and IC 22-15.

(f) Delete the definition of CONSTRUCTION DOCUMENTS and substitute to read as follows: CONSTRUCTION DOCUMENTS. For construction documents see the General Administrative Rules (675 IAC 12) for Class 1 structures and local ordinance for Class 2 structures.

(g) Delete EMERGENCY ESCAPE AND RESCUE OPENING and substitute to read as follows: EMERGENCY ESCAPE OPENING. An operable window, door, or similar device that provides for a means of escape in the event of an emergency.

(h) Delete from the definition of ESSENTIALLY NONTOXIC TRANSFER FLUIDS the following: "and FDA-approved boiler water additions for steam boilers".

(i) Change the definition of EXISTING INSTALLATIONS to read as follows: Any system regulated by this code that was legally installed prior to the effective date of this code.

(j) Add **the definition of FAMILY** after the definition of FACTORY-BUILT CHIMNEY ~~the definition of FAMILY~~ to read as follows: FAMILY means an individual or two (2) or more persons related by blood or marriage and/or a group of not more than ten (10) persons (excluding servants) who need not be related by blood or marriage living together in a dwelling unit.

(k) Add in the definition of FOAM PLASTIC INSULATION "**of**" between the words "consisting" and "open".

**(l) Add the definition of FOUNDATION WALL after FOAM PLASTIC INSULATION to read as follows: FOUNDATION WALL means the supporting element(s) that extend from the top of the footing to the bottom of the sill plate.**

~~(m)~~ (m) Delete in the definition of HEATING DEGREE DAY (HDD) "acceptable to the code" and substitute "approved by the building".

~~(n)~~ (n) Add the following definitions after INSULATING SHEATHING:

INTERNATIONAL BUILDING CODE means the Indiana Building Code (675 IAC 13).

ICC ELECTRICAL CODE means the Indiana Electrical Code (675 IAC 17).

INTERNATIONAL FIRE CODE means the Indiana Fire Code (675 IAC 22).

INTERNATIONAL FUEL GAS CODE means the Indiana ~~Mechanical Fuel Gas Code (675 IAC 18).~~ **(675 IAC 25).**

INTERNATIONAL MECHANICAL CODE means the Indiana Mechanical Code (675 IAC 18).

INTERNATIONAL PLUMBING CODE means the Indiana Plumbing Code (675 IAC 16).

~~(o)~~ (o) Delete the definition of LABELED and substitute to read as follows: LABELED. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization engaged in product evaluation that maintains periodic inspection or production of

labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

~~(p)~~ **(p)** Delete the definition of LISTED AND LISTING and substitute to read as follows: LISTED AND LISTING. Equipment or materials included in a list published by an organization engaged in product evaluation that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

~~(q)~~ **(q)** Add the definition of NATIONAL ELECTRICAL CODE after MULTIPLE STATION SMOKE ALARM to read as follows: NATIONAL ELECTRICAL CODE means the Indiana Electrical Code (675 IAC 17).

~~(r)~~ **(r)** Add the definition of NFPA 70 after NATURAL DRAFT SYSTEM to read as follows: NFPA 70 means the Indiana Electrical Code (675 IAC 17).

~~(s)~~ **(s)** Delete the definition of PERMIT.

~~(t)~~ **(t)** Delete in the definition of PLUMBING, "repairs, maintenance".

~~(u)~~ **(u)** Delete in the definition of PLUMBING APPURTENANCE "maintenance, servicing, economy".

~~(v)~~ **(v)** Delete the definition of POTABLE WATER and substitute to read as follows: POTABLE WATER. Water that at the point of use is acceptable for human consumption under drinking water standards adopted by the Water Pollution Control Board at 327 IAC 8.

~~(w)~~ **(w)** Delete the definition of REGISTERED DESIGN PROFESSIONAL.

~~(x)~~ **(x)** Add the definition of RECESSED LIGHT after RECEPTOR to read as follows: RECESSED LIGHT means a light fixture that by design penetrates the thermal boundary of the building.

~~(y)~~ **(y)** Delete the definition of ROOF REPAIR.

~~(z)~~ **(z)** Add the definition of SLAB-ON-GRADE FLOOR INSULATION after SKYLIGHT AND SLOPED GLAZING to read as follows: SLAB-ON-GRADE FLOOR INSULATION means insulation around the perimeter of the floor slab or its supporting foundation.

**(aa)** Add the definition of SMOKE ALARM after SLOPE to read as follows: SMOKE ALARM means an alarm device that is responsive to smoke.

**(bb)** Add the definition of TACTILE NOTIFICATION APPLIANCE after SWEEP to read as follows: TACTILE NOTIFICATION APPLIANCE means a notification appliance that alerts by sense of touch or vibration.

~~(cc)~~ **(cc)** Add to the definition of TOWNHOUSE, between "units" and "in", "separated by property lines" (675 IAC 14-4.2-3) Eff March 24, 2004

**Section R301.2; climatic and geographic design criteria**

Sec. 4. Delete the last sentence of SECTION R301.2. (675 IAC 14-4.2-4) Eff June 22, 2001

**Sections R301.2.1.1 and R301.2.1.2; design criteria, internal pressure**

Sec. 5. Delete SECTIONS R301.2.1.1 and R301.2.1.2. (675 IAC 14-4.2-5) Eff June 22, 2001

**Table R301.2(1); climatic and geographical design criteria**

Sec. 6. Delete TABLE R301.2(1) and corresponding footnotes and substitute to read as follows:

TABLE R301.2(1)

No.	County	Wind Speed <sup>1</sup> (MPH)	Seismic Zone <sup>2</sup>	Ground Snow (PSF)	Foundation <sup>3</sup>	Winter Design Temp	Decay	Termite	Weathering <sup>4</sup>
01	Adams	90	B	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
02	Allen	90	B	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
03	Bartholomew	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
04	Benton	90	B	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
05	Blackford	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
06	Boone	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
07	Brown	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
08	Carroll	90	B	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
09	Cass	90	A	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
10	Clark	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
11	Clay	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
12	Clinton	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
13	Crawford	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
14	Daviess	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
15	Dearborn	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
16	Decatur	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe

17	Dekalb	90	B	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
18	Delaware	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
19	Dubois	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
20	Elkhart	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
21	Fayette	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
22	Floyd	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
23	Fountain	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
24	Franklin	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
25	Fulton	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
26	Gibson	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
27	Grant	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
28	Greene	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
29	Hamilton	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
30	Hancock	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
31	Harrison	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
32	Hendricks	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
33	Henry	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
34	Howard	90	A	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
35	Huntington	90	B	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
36	Jackson	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
37	Jasper	90	B	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
38	Jay	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
39	Jefferson	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe

40	Jennings	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
41	Johnson	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
42	Knox	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
43	Kosciusko	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
44	LaGrange	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
45	Lake	90	B	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
46	LaPorte	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
47	Lawrence	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
48	Madison	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
49	Marion	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
50	Marshall	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
51	Martin	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
52	Miami	90	A	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
53	Monroe	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
54	Montgomery	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
55	Morgan	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
56	Newton	90	B	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
57	Noble	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
58	Ohio	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
59	Orange	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
60	Owen	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
61	Parke	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
62	Perry	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe



63	Pike	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
64	Porter	90	B	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
65	Posey	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
66	Pulaski	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
67	Putnam	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
68	Randolph	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
69	Ripley	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
70	Rush	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
71	St. Joseph	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
72	Scott	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
73	Shelby	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
74	Spencer	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
75	Starke	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
76	Steuben	90	A	30	36	1°	Slight to Moderate	Moderate to Heavy	Severe
77	Sullivan	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
78	Switzerland	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
79	Tippecanoe	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
80	Tipton	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
81	Union	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
82	Vanderburgh	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
83	Vermillion	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
84	Vigo	90	C	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
85	Wabash	90	A	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe

86	Warren	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
87	Warrick	90	C <sub>1</sub>	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
88	Washington	90	B	20	24	9°	Slight to Moderate	Moderate to Heavy	Severe
89	Wayne	90	B	20	30	2°	Slight to Moderate	Moderate to Heavy	Severe
90	Wells	90	B	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
91	White	90	B	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe
92	Whitley	90	A	20	36	1°	Slight to Moderate	Moderate to Heavy	Severe

<sup>1</sup> Wind exposure category shall be determined on a site-specific basis in accordance with SECTION R301.2.1.4.

<sup>2</sup> See SECTION R301.2.2.

<sup>3</sup> Foundation is minimum foundation depth to bottom of footing from the top of the finished grade above the footing in inches.

<sup>4</sup> The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C216, or C652.

(675 IAC 14-4.2-6) Eff March 24, 2004

#### **Figures R301.2(1), R301.2(2), R301.2(3), R301.2(4), R301.2(5), R301.2(6), and R301.2(7)**

Sec. 7. Delete Figures R301.2(1), R301.2(2), R301.2(3), R301.2(4), R301.2(5), R301.2(6), and R301.2(7), and R301.2(8).

(675 IAC 14-4.2-7) Eff March 24, 2004

#### **Table R301.2.1.2**

Sec. 8. Delete Table R301.2.1.2 and the corresponding footnotes. (675 IAC 14-4.2-8) Eff June 22, 2001

#### **Section R301.2.2; seismic provisions**

Sec. 9. Change SECTION R301.2.2 to read as follows: The seismic provisions of this code shall apply to buildings constructed in Seismic Design Categories C, and C<sub>1</sub>, D<sub>1</sub>, and D<sub>2</sub> as determined in accordance with this section.

EXCEPTION: Detached one and two family dwellings located in Seismic Design Category C and C<sub>1</sub> are exempt from the seismic requirements of this code except such dwellings in Category C<sub>1</sub> shall comply with the provisions of SECTIONS ~~R301.2.2.5 and R606.11.2~~ **R403.1.2, R403.1.4, R404.1.1, R404.1.2, R606.11, R606.11.2, R607.1.2, R1003.3, R1003.4, M2005.5, and FIGURE 606.10(2) R606.10(2)**. Townhouses in ~~Seismic Design Category~~ **Categories C and C<sub>1</sub>**

are not exempt from the seismic provisions ~~that apply to Categories C and C<sub>1</sub> of this code.~~

**EXCEPTION: Townhouses and other buildings are exempt from the requirements of SECTION R301.2.2.7.**

The weight limitations of SECTION ~~R301.2.2.2~~ **R301.2.2.4** shall apply to buildings in all Seismic Design Categories regulated by this code. ~~Buildings in Seismic Design Category C, townhouses, shall be constructed in accordance with the additional requirements of SECTIONS R301.2.2.3 and R301.2.2.4. Buildings in Category C<sub>1</sub> are exempt from the provisions of SECTIONS R301.2.2.3, R301.2.2.4, and R301.2.2.7 but shall comply with the provisions of SECTION R301.2.2.5.~~ (675 IAC 14-4.2-9) Eff March 24, 2004

#### **Section R301.2.2.1; determination of seismic design category**

Sec. 10. Delete SECTION R301.2.2.1. (675 IAC 14-4.2-10) Eff June 22, 2001

#### **Section R301.2.2.1.1; alternate determination of seismic design category**

Sec. 11. Change SECTION R301.2.2.1.1 as follows: (a) Change the first sentence to read as follows: The Seismic Design Categories and corresponding Short Period Design Spectral Response Accelerations,  $S_{DS}$  are based on soil Site Class D, as defined in the Indiana Building Code, 675 IAC 13.

(b) Change the second sentence to read as follows: If soil conditions are other than Site Class D, the Short Period Design Spectral Response Acceleration,  $S_{DS}$ , for a site can be

determined according to the Indiana Building Code, 675 IAC 13.

(c) Change the third sentence to read as follows: The value of  $S_{DS}$  determined according to the Indiana Building Code, 675 IAC 13, is permitted to be used to set the Seismic Design Category according to TABLE R301.2.2.1.1, and to interpolate between values in TABLES R602.10.3 and R603.7 and other seismic design requirements of this code. (675 IAC 14-4.2-11) Eff June 22, 2001

#### **Section R301.2.2.1.2; alternative determination of seismic design category E**

Sec. 12. Delete SECTION R301.2.2.1.2. (675 IAC 14-4.2-12) Eff June 22, 2001

#### **Section R301.2.2.2; determination of seismic design category**

Sec. 13. Delete the first sentence of SECTION R301.2.2.2. (675 IAC 14-4.2-13) Eff June 22, 2001

#### **Section R301.2.2.3; anchored stone and masonry veneer in seismic design Categories C and $C_1$ .**

Sec. 13.5. Make the following changes to SECTION R301.2.2.3: Add "and  $C_1$ " after "Category C" in three (3) places. (675 IAC 14-4.2-13.5) Eff March 24, 2004

#### **Section R301.2.2.9; irregular buildings in seismic design categories $D_1$ and $D_2$**

Sec. 14. Delete SECTION R301.2.2.9. (675 IAC 14-4.2-14) Eff June 22, 2001

#### **Section R301.2.4; floodplain construction**

Sec. 15. Delete SECTION R301.2.4 and substitute to read as follows: See local ordinance for flood plain

construction. (675 IAC 14-4.2-15) Eff June 22, 2001

#### **Section R301.4; live load**

Sec. 15.5. Add a subsection to SECTION R301.4 to read as follows: **R301.4.1 Live Load Reduction.**

**1. Tributary floor area.** A structural member which supports a tributary floor area of greater than two hundred (200) square feet on a given story is permitted to be designed using a reduced uniform floor live load for each qualifying story in accordance with the following formula:

$$L = L_0 \left[ 0.25 + \frac{10.6}{\sqrt{A_t}} \right] \geq 0.75$$

for  $A_t > 200 \text{ ft}^2$

Where:  $A_t$  is the tributary area of floor surface in square feet supported by the structural member and  $L_0$  is the floor live load from TABLE R301.4.

**2. Multiple stories.** When floor, roof and attic live loads from multiple story levels are applied to a structural member the live loads may be factored as follows:

$$L = L_1 + 0.7(L_2 + L_3 + \dots)$$

Where:  $L_1$  is the live load from TABLES R301.4 and R301.5 producing the maximum individual load effect and  $L_2$ ,  $L_3$ , and so forth are live loads from other sources or stories in accordance with TABLES R301.4 and R301.5. (675 IAC 14-4.2-15.5) Eff March 24, 2004

**Table R301.4; minimum uniformly distributed live loads**

Sec. 16. Delete Table R301.4 and corresponding footnotes and substitute to read as follows:

TABLE R301.4  
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

USE	LIVE LOAD (pounds per square foot)
Attics–nonaccessible <sup>1</sup>	0
Attics–accessible <sup>2</sup>	10
Attics–uninhabitable <sup>3</sup>	20
Attics–inhabitable <sup>4</sup>	30 <sup>5</sup>
Balconies–exterior	60
Decks	40
Rooms other than sleeping rooms	40
Fire escapes	40
Garages <sup>6, 8</sup>	50
Guards and handrails <sup>9</sup>	200
Sleeping rooms	30
Stairs	40/300 <sup>7</sup>

<sup>1</sup>Attics where attic access is not required by SECTION R807.

<sup>2</sup>Attics where attic access is provided as required by SECTION R807 and a disappearing stairway or a permanent stairway is not provided.

<sup>3</sup>Attic spaces having a minimum clear height greater than six (6) feet and are not capable of containing the prism described in footnote 4, and are served by a disappearing or a permanent stairway.

<sup>4</sup>Attic spaces that are capable of containing a rectangular prism seven (7) feet high by six (6) feet wide by eight (8) feet long free of any structural member.

<sup>5</sup>For trusses, the thirty (30) pounds per square foot live load shall be applied over the entire length of the truss panel that contains the prism required by footnote 4.

<sup>6</sup>Passenger cars only.

<sup>7</sup>Individual stair treads shall be designed for the uniformly distributed live load of forty (40) pounds per square foot or a three hundred (300) pound concentrated load acting over an area of four (4) square inches, whichever produces the greater stress.

<sup>8</sup>Elevated garage floors shall be capable of supporting a two thousand (2,000) pound load applied over a twenty (20) square inch area.

<sup>9</sup>A single concentrated load applied in any direction at any point along the top.

(675 IAC 14-4.2-16) Eff June 22, 2001

**Section R302.1; exterior walls**

Sec. 17. Change SECTION R302.1 as follows: (a) Change the exception to read as follows:

EXCEPTIONS: 1. Tool and storage sheds, playhouses and similar structures are not required to provide wall protection based on location on the lot. Projections beyond the exterior shall not extend over the lot line.

(b) Add EXCEPTION 2 to read as follows: 2. Where structures are placed closer than three (3) feet to the property lines, the one-hour fire-resistive rating shall not apply if a perpetual, platted, and recorded easement creates a nonbuildable separation of at least six (6) feet between structures and adjacent properties. (675 IAC 14-4.2-17) Eff June 22, 2001

**Section R302.2; openings**

Sec. 18. Add EXCEPTION 3 to the end of SECTION R302.2 to read as follows: 3. Where structures are placed closer than three (3) feet to the property line, the limitation on openings in exterior walls shall not apply if a perpetual, platted, and recorded easement creates a nonbuildable separation of at least six (6) feet between structures on adjacent properties. (675 IAC 14-4.2-18) Eff June 22, 2001

### **Section R303.1; habitable rooms**

Sec. 19. Delete the third sentence of SECTION R303.1. (675 IAC 14-4.2-19) Eff June 22, 2001

### **Section R303.4; stairway illumination**

Sec. 19.5. In the first paragraph of Section R303.4, delete everything after the first sentence and substitute to read as follows: Interior stairways shall be provided with an artificial light source capable of illuminating treads and landings to levels not less than one (1) foot-candle (eleven (11) lux) measured in the center of treads and landings. Exterior stairways shall be provided with an artificial light source capable of illuminating the top landing to a level not less than one (1) foot-candle (eleven (11) lux). Exterior stairways providing access to a basement from the outside grade shall be provided with an artificial light source capable of illuminating the bottom landing to a level not less than one (1) foot-candle (eleven (11) lux). (675 IAC 14-4.2-19.5) Eff March 24, 2004

### **Section R305.1; minimum height**

Sec. 20. Add EXCEPTION 4 to SECTION R305.1 to read as follows: 4. Bathrooms shall have a minimum ceiling height of six (6) feet eight (8) inches at the front clearance area for the fixtures as shown in FIGURE R307.2. Ceiling height above fixtures shall be such that the fixture may be used for its intended purpose. A shower or bath tub equipped with a shower head shall have a minimum ceiling height of six (6) feet eight (8) inches. (675 IAC 14-4.2-20) Eff June 22, 2001

### **Section R308.4; hazardous locations**

Sec. 20.5. ~~Delete Exception number 9~~ Make the following change to SECTION R308.4:

**Change Exception 5 to read as follows:**

**5. Glazing in SECTION R308.4, item 6, when a protective bar is installed on the accessible sides of the glazing thirty-four (34) inches (eight hundred sixty-four**

**(864) millimeters) to thirty-eight (38) inches (nine hundred sixty-five (965) millimeters) above the floor. The bar shall be capable of withstanding a horizontal load of fifty (50) pounds (twenty-two and sixty-eight hundredths (22.68) kilograms) per linear foot without contacting the glass and be a minimum of one and one-half (1½) inches (thirty-eight (38) millimeters) in height. (675 IAC 14-4.2-20.5) March 24, 2004**

### **Section R309; garages and carports**

Sec. 21. Change the title and text of SECTION R309 as follows: (a) Change the title of SECTION R309 to read as follows: GARAGES, CARPORTS, OR ACCESSORY STRUCTURES.

**(b) Change the text of SECTION R309.2 to read as follows: The garage shall be separated from the residence and its attic area by a smoke separation of not less than one-half (½) -inch (thirteen (13) millimeter) gypsum board applied to the garage side of the framing.**

~~(b)~~ (c) Change the second paragraph of SECTIONS R309.3 and R309.4 to read as follows: The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to an approved drain or toward the main vehicle entry doorway.

~~(c)~~ (d) Delete the title and text of SECTION R309.5, Flood hazard areas, and substitute to read as follows: R309.5 Detached garages, carports, or accessory structures. R309.5.1 Separation. Detached garages, carports, or accessory structures shall provide not less than six (6) feet of open space between same and the residence, except that such space may be roofed in compliance with Chapters 8 and 9 of this code. Detached garages, carports, or accessory structures separated from the residence by less than six (6) feet of open space shall be considered the same as attached and shall comply with this code. In no case shall garages, carports, or accessory structures be attached to the dwelling when the footings of the structure to be attached are above the frost line and the adjacent footings of the dwelling are at or below the frost line unless approved by the building official. R309.5.2 Requirements. Detached garages, detached carports, or accessory structures shall be constructed to applicable sections of this code unless otherwise noted in TABLE R309. Any habitable rooms(s) located within a detached garage, detached carport, or accessory structure shall meet all applicable sections of this code and shall be provided with an exit door as specified in SECTION R311.1.

~~(d)~~ (e) Add TABLE R309 at the end of SECTION R309 to read as follows:

TABLE R309  
DETACHED GARAGES, DETACHED CARPORTS, OR ACCESSORY STRUCTURES

CONSTRUCTION REQUIREMENTS	Portable 120 Square Feet Maximum	Monolithic <sup>1</sup> Footings 721 Square Feet Maximum	Structures with Conventional Foundation
Footings and Foundations	No Requirements	8" W × 18" D <sup>2</sup> or 12" W × 12" D <sup>2</sup>	Indiana <del>One and Two Family Dwelling Code</del> <b>Residential Code</b>
Floors	No Requirements	Indiana <del>One and Two Family Dwelling Code</del> <b>Residential Code</b>	
Exterior Walls	No Requirements		
Girders and Headers	No Requirements		
Roof Systems	No Requirements		
Electrical Power Limits	One 15 Amp. Circuit		
Water Supply/Sanitation	Not Allowed	<sup>1</sup>	
Permanent Heat	Not Allowed	<sup>1</sup>	
Maximum Number of Stories	1	<sup>1</sup> 3	

NOTES:

<sup>1</sup>In structures utilizing monolithic floor systems, the water and sanitation systems and permanent heating facilities may be installed when approved flexible connections are provided.

<sup>2</sup>6 × 6 - W2.9 × W2.9 welded wire fabric or equivalent is required when monolithic slab footing system is used.

<sup>3</sup>One (1) story unless otherwise approved by the building official.  
(675 IAC 14-4.2-21) Eff March 24, 2004

## Section R310; emergency escape and rescue openings

Sec. 22. (a) Change SECTION R310 as follows: (a) Change the title to read as follows: EMERGENCY ESCAPE OPENINGS.

(b) Change the title and text of SECTION R310.1 to read as follows: R310.1. Emergency escape required. Every sleeping room shall have at least one (1) openable emergency escape window or exterior door opening for emergency escape. Where openings are provided as a means of escape, they shall have a sill height of not more than forty-four (44) inches (one thousand one hundred eighteen (1,118) millimeters) above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with SECTION R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the window or door opening from the inside. Escape window openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with SECTION R310.2.

(c) Change SECTION R310.1.1 to read as follows: R310.1.1 Minimum opening area. All emergency escape openings shall have a minimum net clear opening of five and seven-tenths (5.7) square feet (five hundred thirty-thousandths (0.530) m<sup>2</sup>).

EXCEPTION: Grade floor openings shall have a minimum net clear opening of five (5) square feet (four hundred sixty-five thousandths (0.465) m<sup>2</sup>).

(d) Change SECTION R310.1.2 as follows: Minimum opening height. The minimum net clear ~~opening~~ **opening** height shall be **twenty-two (22) inches (610 mm)**. ~~(five hundred fifty-nine (559) millimeters)~~.

(e) Change SECTION R310.1.4 to read as follows: R310.1.4 Operational constraints. Emergency escape openings shall be operational from the inside of the room without the use of key(s) or tool(s).

(f) Change the first sentence of SECTION R310.2 to read as follows: R310.2 Window wells. Window wells required for emergency escape shall have horizontal dimensions that allow the door or

window of the emergency escape opening to be fully opened.

(g) Delete in SECTION R310.2.1 "below the adjacent ground level".

(h) Delete in two (2) places in SECTION R310.4 "and rescue".

(i) Add SECTION R310.5 to read as follows: R310.5 Sleeping room replacement window alterations. When replacing existing sleeping room windows, at least one (1) of the replacement windows **within that sleeping room** shall comply with SECTION R310.5. Replacement windows that do not meet the current emergency escape requirements of SECTION R310, without structural alterations to the dwelling, may be installed as long as they meet the following requirements.

1. Replacement window installation shall not reduce the existing net clear opening by more than six (6) inches horizontally and six (6) inches vertically, except that awning replacement windows shall not reduce the existing net clear opening by more than three (3) inches vertically.

2. In no case shall the replacement window net clear opening height be less than twenty-two (22) inches (five hundred fifty-nine (559) millimeters) and the net clear opening width be less than twenty (20) inches (five hundred eight (508) millimeters).

3. Double hung or sliding replacement windows shall have both sashes removable without the use of a key or tool. Single hung installations are not allowed by this section.

4. Casement and awning replacement windows may obtain the required net clear opening with the use of egress hardware.

5. If the replacement window cannot meet the minimum requirements listed in subdivisions 1, 2, 3, and 4, the existing window shall be replaced with a like window without reducing the existing net clear opening. (675 IAC 14-4.2-22) Eff March 24, 2004

## Section R311.2; type of lock or latch

Sec. 23. Delete "egress" between "all" and "doors" and delete "or special knowledge or Eff June 22, 2001" from SECTION R311.2. (675 IAC 14-4.2-23) Eff June 22, 2001

an exterior storm or screen door does not swing over the landing.

### Section R311.5; exit facilities

Sec. 24. Delete SECTION R311.5. (675 IAC 14-4.2-24) Eff June 22, 2001

### Section R312.1, Section R312.1.1 and Section R312.1.2; general, landings for stairways and landings for doors

Sec. 25. Delete the text and SECTION numbers of SECTIONS R312.1, R312.1.1, and R312.1.2 and substitute to read as follows: (a) Add SECTION R312.1 to read as follows: R312.1 Landings. There shall be a floor or landing at the top and bottom of each stairway.

EXCEPTION: At the top of an interior flight of stairs, provided the door does not swing over the stairs.

(b) Add SECTION R312.1.1 to read as follows: R312.1.1 Required exit. There shall be a floor or landing on each side of the required exit door and the landing shall comply with SECTION R312.2.

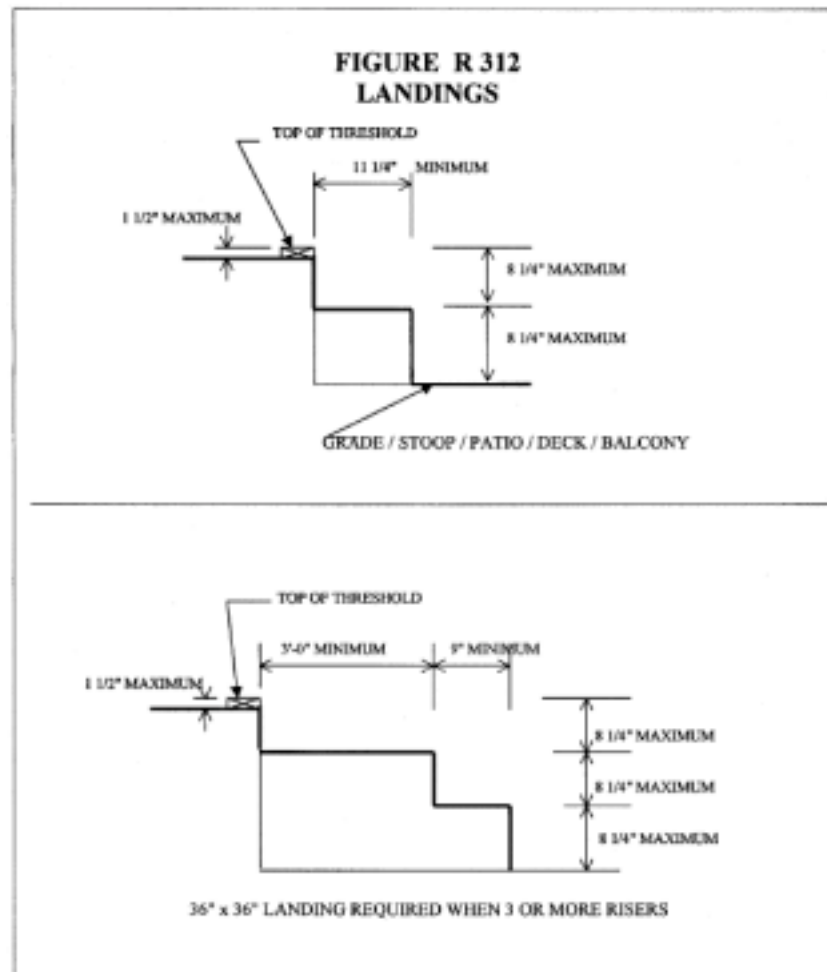
(c) Add SECTION R312.1.2 to read as follows: R312.1.2 Other exterior doors (nonrequired exits). Exterior doors, other than the required exit that requires three (3) or more risers, shall be provided with landings and steps as required by FIGURE R312, or guards, or ramps.

Exterior doors, other than the required exit that require two (2) or fewer risers, shall be provided with an intermediate tread with a width of not less than eleven and one-fourth (11¼) inches (two hundred eighty-six (286) millimeters) as required by FIGURE R312 or be provided with a landing as stated in SECTION R312.2.

(d) Add SECTION R312.1.3 to read as follows: R312.1.3 Landings at doors. The floor or landing at a door shall not be more than one and one-half (1.5) inches (thirty-eight (38) millimeters) lower than the top of the threshold.

EXCEPTION: The landing at an exterior doorway shall not be more than eight and one-fourth (8¼) inches (one hundred ninety-seven (197) millimeters) below the top of the threshold, provided that the door, other than

(e) Add FIGURE R312 at the end of SECTION R312.1.



### Section R314.2; treads and risers

Sec. 26. Change in the first sentence of SECTION R314.2 "7 ¾ inches (196 mm)" to "8¼ inches" and "10 inches (254 mm)" to "9 inches". (675 IAC 14-4.2-26) Eff June 22, 2001

### Section R314.8; under-stair protection



**Sec. 26.5. Change the text of R314.8 to read as follows: Enclosed accessible space under stairs, with a door or access panel, shall have walls, under-stair surface, and any soffits protected on the enclosed side with one-half (1/2)-inch (thirteen (13) millimeter) gypsum board.**

**EXCEPTION: Any under-stair space with one (1) or more open sides. (675 IAC 14-4.2-26.5) Eff March 24, 2004**

### **Section R314.9; bulkhead enclosure stairways**

**Sec. 27. Change in SECTION R314.9 "egress" to "exit". (675 IAC 14-4.2-27) Eff June 22, 2001**

### **Section R315.1; handrails**

**Sec. 27.5. Amend SECTION R315.1 to read as follows: R315.1 Handrails. Handrails having minimum and maximum heights of **thirty-four (34) inches and thirty-eight (38) inches (eight hundred sixty-four (864)mm and nine hundred sixty-five (965)mm millimeters)**, respectively, measured vertically from the nosing of the treads, shall be provided on at least one (1) side of stairways. All required handrails shall serve each tread the full length of the ~~interior~~ stairs with three (3) or more risers ~~and exterior stairs with two or more risers~~ from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight. Ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than ~~4-5~~ **one and one-half (1 1/2) inches (33-mm) (thirty-eight (38) millimeters)** between the wall and handrail.**

**EXCEPTIONS: 1. Handrails shall be permitted to be interrupted by a newel post at a turn or by a landing.**  
**2. The use of a volute, turnout, or starting easing shall be allowed over the lowest tread. (675 IAC 14-4.2-27.5) Eff March 24, 2004**

### **Section R315.2; handrail grip size**

**Sec. 28. Change in the first sentence of SECTION R315.2 "2 5/8 inches (67 mm)" to "2 7/8 inches". (675 IAC 14-4.2-28) Eff June 22, 2001**

### **Section R316.1; guards required**

**Sec. 29. Add in the first sentence of**

**Change SECTION R316.1 as follows:**

**(a) In the first sentence add ", decks" between "balconies" and "or".**

**(b) Add a sentence at the end of the section to read as follows: Guards that are installed on porches, balconies, decks, or raised floor surfaces that are thirty (30) inches (seven hundred sixty-two (762) millimeters) or less above the floor or grade do not have to meet the requirements of Section R316. (675 IAC 14-4.2-29) Eff March 24, 2004**

### **Section R316.2; guard opening limitations**

**Sec. 30. Add in the first sentence of SECTION R316.2 ", decks" between "balconies" and "and". (675 IAC 14-4.2-30) Eff June 22, 2001**

### **Section R317; smoke alarm**

**Sec. 31. Delete the text of SECTION ~~R317.1.1~~ R317 and substitute to read as follows: (a) Delete ", repairs" in the title.**

**(b) Delete ", repairs" in the first paragraph.**

**(c) Delete "or repairs" in EXCEPTION 1.**

**(a) Change EXCEPTION 2 to read as follows: Repairs are exempt from the requirements of this section.**

**R317.1 Labeling. Each smoke alarm shall be listed.**

**R317.2 Required smoke alarm locations. At least one (1) smoke alarm shall be installed in each of the following locations:**

**(a) In the living area remote from the kitchen and cooking appliances.**

**Smoke alarms located within twenty (20) feet (six and one-tenth (6.1) meters) horizontally of a cooking appliance must incorporate a temporary silencing feature or be photoelectric type.**

**(b) In each room designed for sleeping.**

**(c) On the ceiling of the upper level near the top or above each stairway, other than a basement stairway, in any multistory dwelling. The alarm shall be located so that smoke rising in the stairway cannot be prevented from reaching the alarm by an intervening door or obstruction.**

- (d) On the basement ceiling near the stairway.

**R317.2.1 Alterations and additions.** When interior alterations or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings; the smoke alarms shall be interconnected and hard wired.

**EXCEPTIONS:** 1. Smoke alarms in existing areas shall not be required to meet the requirements of R317.5 where the alterations do not result in the removal of the interior wall or ceiling finishes exposing the structure unless there is an attic, crawlspace, or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.

2. Repairs are exempt from the requirements of the section.

**R317.3 Prohibited smoke alarm locations.** A smoke alarm required under this section shall not be placed:

1. within three (3) feet (nine hundred fourteen (914) millimeters) horizontally from any grille moving conditioned air within the living space; or
2. in any location or environment that is prohibited by the terms of the listing.

**R317.4 Mounting requirements.** Smoke alarms required by SECTION R317.2 shall be mounted in accordance with their listing, instructions, and the requirements of this section.

**R317.4.1 Flat Ceilings.** In rooms with flat, peaked sloping or single slope ceilings with a slope of less than 1.5/12, smoke alarms shall be mounted either:

1. on the ceiling at least four (4) inches (one hundred two (102) millimeters) from each wall; or
2. on a wall with the top of the alarm not less than four (4) inches (one hundred two (102) millimeters) below the ceiling and not farther from the ceiling than twelve (12) inches (three hundred five (305) millimeters) or the distance from the ceiling specified in the smoke alarm manufacturer's listing and instructions, whichever is less.

**R317.4.2 Peaked Sloping Ceilings.** In rooms with peaked sloping ceilings with a slope of 1.5/12 or greater, smoke alarms shall be:

1. mounted on the ceiling or wall within three (3) feet (nine hundred fourteen (914) millimeters), measured horizontally, from the peak of the ceiling;
2. at least four (4) inches (one hundred two (102) millimeters), measured vertically, below the peak of the ceiling; and
3. at least four (4) inches (one hundred two (102) millimeters) from any projecting structural element.

**R317.4.3 Single Slope Ceilings.** In rooms with single slope ceilings with a slope of 1.5/12 or greater, smoke alarms shall be:

1. mounted on the ceiling or wall within three (3) feet (nine hundred fourteen (914) millimeters), measured horizontally, of the high point of the ceiling; and
2. not closer than four (4) inches (one hundred two (102) millimeters) from any adjoining wall surfaces or any projecting structural element.

**R 317.4.4 Visible and tactile notification appliances.** In addition to the smoke alarms required pursuant to this section, listed visible and tactile notification appliances, when installed, shall meet the following:

**R317.4.4.1 Candela Rating-Sleeping Room.** A visible notification appliance, when installed in a room designed for sleeping, shall have a minimum rating of one hundred seventy-seven (177) candela, except that when the visible notification appliance is wall-mounted or suspended more than twenty-four (24) inches (six hundred ten (610) millimeters) below the ceiling, a minimum rating of one hundred ten (110) candela is permitted.

**R317.4.4.2 Candela Rating-Non-Sleeping**

**Room.** A visible notification appliance, when installed in an area other than a room designed for sleeping, shall have a minimum rating of fifteen (15) candela.

**R317.5 Connection to Power Source.** Each smoke alarm shall be powered from:

1. the electrical system of the home as the primary power source and a battery as a secondary power source; or
2. a battery rated for a ten- (10) year life, provided the smoke alarm is listed for use with a ten- (10) year battery.

**EXCEPTION:** Visible and tactile notification appliances are required to operate from the primary power source, but are not required to operate from a secondary power source.

**R317.5.1 Circuitry.** Each smoke alarm whose primary power source is the home electrical system shall be mounted on an electrical outlet box and be connected by a permanent wiring method to a general branch circuit. The same branch circuit may serve more than one smoke alarm. The branch circuit for the alarm shall not include any switches between the branch circuit overcurrent protective device and the alarm, and shall not be protected by a ground-fault circuit-interrupter.

**R317.5.2 Interconnection.** When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. (675 IAC 14-4.2-31) Eff March 24, 2004

### **Section R318.2.3; attics and crawl spaces**

Sec. 32. Delete SECTION R318.2.3 and substitute to read as follows: Within an attic or crawl space, foam plastics shall be protected against ignition by one and one-half (1½) inch thick mineral fiber insulation, or one-fourth (¼) inch thick plywood, or three-eighths (3/8) inch particleboard, or one-fourth (¼) inch hardboard, or three-eighths (3/8) inch gypsum wallboard or corrosion-resistant steel having a base metal thickness of sixteen-thousandths (0.016) inch or

other approved material installed in such a manner that the foam plastic is not exposed.

**EXCEPTION:** Foam plastic insulation may be installed on the walls of attics and crawl spaces with no covering applied provided all the following conditions are met:

1. The maximum thickness/density is within the following:
  - a. Maximum 4-inch thickness with a maximum density of 4.0 pcf.
  - b. Up to 2-inch thickness with a maximum density of 2.5 pcf.
  - c. Up to 1-inch thickness with a maximum density of 2.0 pcf.
2. The maximum flame spread is twenty-five (25).
3. The maximum smoke development rating is four hundred fifty (450).
4. The entry to the attic or crawl space is made only for service or maintenance (not used for storage).
5. There are not interconnected basement areas.
6. The air in the attic or crawl space is not circulated to other parts of the building.
7. Where fuel-burning appliances other than direct vent appliances or exposed (not sealed) motors are located more than ten (10) feet away from the foam insulation in the attic or crawl space.

(675 IAC 14-4.2-32) Eff June 22, 2001

### **Section R322.1; moisture control**

Sec. 33. Delete EXCEPTION 3 in SECTION R322.1. (675 IAC 14-4.2-33) Eff June 22, 2001

### **Section R323.1; location required**

Sec. 34. **Make the following changes to SECTION R323.1:** (a) In the first sentence delete "Figure R301.2(7)" and substitute "TABLE R301.2(1)".

- (a) (b) Change ~~SECTION 323.1~~, item 2 to read as follows: All sills or plates that rest

on concrete or masonry exterior walls and are less than six (6) inches **(one hundred fifty-two (152) millimeters)** from exposed ground or masonry veneer ledge where the wood sill is less than four (4) inches **(one hundred two (102) millimeters)** above exposed ground.

**(c) Change item 3 to read as follows: Sills and sleepers on a concrete slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier or not required by item 2 above.**

~~(b)~~ **(d)** Add an exception to SECTION R323.1, item 7 to read as follows: 7. Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips or framing members.

EXCEPTION: Exterior walls below grade complying with SECTION R406. *(675 IAC 14-4.2-34)* Eff March 24, 2004

### **Section R323.1.2; geographical areas**

Sec. 35. Change SECTION R323.1.2 to read as follows: Approved naturally durable or pressure preservatively treated wood shall be used for those portions of wood members that form the structural supports of buildings, balconies, decks, porches, or similar permanent building appurtenances when such members are exposed to the weather without adequate protection from a roof, eave, overhang, or other covering that would prevent moisture or water accumulation on the surface or at joints between members. Such members may include the following:

1. Horizontal members, such as girders, joists, and decking.
  2. Vertical members, such as posts, poles, and columns.
  3. Both horizontal and vertical members.
- (675 IAC 14-4.2-35)* Eff June 22, 2001

### **Section R323.1.4; wood columns**

Sec. 36. Change SECTION 323.1.4, EXCEPTION to read as follows: EXCEPTION: Posts or columns separated or supported above the floor or finish grade by a minimum of one (1) inch of

impervious moisture barrier material. *(675 IAC 14-4.2-36)* Eff June 22, 2001

### **Section R323.2; quality mark**

Sec. 37. Change in SECTION R323.2 "approved by an accreditation body" to "accepted by an accreditation body". *(675 IAC 14-4.2-37)* Eff June 22, 2001

### **Section R324.1; subterranean termite control**

Sec. 37.5. Delete "favorable to termite damage" and substitute "subject to very heavy termite damage". *(675 IAC 14-4.2-37.5)* Eff March 24, 2004

### **Section R324.4; foam plastic protection**

Sec. 38. Delete SECTION R324.4. *(675 IAC 14-4.2-38)* Eff June 22, 2001

### **Section R326; accessibility**

Sec. 39. Delete SECTION R326. *(675 IAC 14-4.2-39)* Eff June 22, 2001

### **Section 327; flood-resistant construction**

Sec. 40. Delete SECTION 327 FLOOD-RESISTANT CONSTRUCTION and substitute to read as follows: See local ordinance. *(675 IAC 14-4.2-40)* Eff June 22, 2001

### Section 401.1; application

Sec. 41. Delete the exceptions in SECTION 401.1. (675 IAC 14-4.2-41) Eff June 22, 2001

### Section R401.3; drainage

Sec. 42. Delete the first sentence of SECTION R401.3. (675 IAC 14-4.2-42) Eff June 22, 2001

### Section R402.1.2; wood treatment

Sec. 43. Change in the first sentence of SECTION R402.1.2 "accredited agency" to "approved agency". (675 IAC 14-4.2-43) Eff June 22, 2001

### Section R403.1; general

Sec. 44. Delete in the first sentence of SECTION R403.1 "continuous". (675 IAC 14-4.2-44) Eff June 22, 2001

### Table R403.1; minimum width of concrete or masonry footings

Sec. 45. Delete TABLE R403.1 and substitute to read as follows:

TABLE R403.1

MINIMUM WIDTH OF CONCRETE OR MASONRY FOOTINGS (inches) <sup>1</sup>				
	LOAD-BEARING VALUE OF SOIL (psf)			
	1,500	2,000	3,000	≥4,000
Conventional Light-Frame Construction				
1-story	12	12	12	12
2-story	15	12	12	12
3-story	23	17	12	12
4-Inch Brick Veneer over Light-Frame Construction or 8-inch Hollow Concrete Masonry				
1-story	12	12	12	12
2-story	21	16	12	12
3-story	32	24	16	12
8-Inch Solid Concrete or Masonry, or Fully Grouted Masonry				
1-story	16	12	12	12
2-story	29	21	14	12
3-story	42	32	21	16

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m<sup>2</sup>.

<sup>1</sup>Where minimum footing width is 12 inches a single wythe of solid or fully grouted 12-inch nominal concrete masonry units is permitted to be used.

(675 IAC 14-4.2-45) Eff June 22, 2001

### Section R403.1.1; minimum size

Sec. 45.3. In SECTION R403.1.1, delete the fifth sentence and substitute to read as follows: **The minimum size of footings supporting piers and columns shall be in accordance with TABLE R403.2.** (675 IAC 14-4.2-45.3) Eff March 24, 2004

### Section R403.1.2; continuous footings in seismic design categories D<sub>1</sub> and D<sub>2</sub>

Sec. 45.5. Delete the title and text of SECTION R403.1.2 and substitute to read as follows: Footings in Seismic Design Category C<sub>1</sub>. In Seismic Design Category C<sub>1</sub>, as a minimum requirement, two (2) #4 bars shall be placed longitudinally in the bottom of the exterior footings. (675 IAC 14-4.2-45.5) Eff June 22, 2001

### **Section R403.1.3; seismic reinforcing**

Sec. 45.6. Delete SECTION R403.1.3. (675 IAC 14-4.2-45.6) Eff June 22, 2001

### **Section R403.1.3.1; foundations with stemwalls**

Sec. 46. Delete SECTION R403.1.3.1. (675 IAC 14-4.2-46) Eff June 22, 2001

### **Section R403.1.3.2; slabs-on-ground with turned-down footings**

Sec. 46.5. Delete Section R403.1.3.2. (675 IAC 14-4.2-46.5) Eff June 22, 2001

### **Section R403.1.4; minimum depth**

Sec. 46.6. Change SECTION R403.1.4 to read as follows: Delete the second paragraph of SECTION R403.1.4 and substitute to read as follows: In Seismic Design Category C<sub>1</sub>, interior footings cast monolithically with a slab on grade shall extend to a depth of not less than 8 inches below the top of the slab or to the undisturbed ground or engineered fill whichever is greater. (675 IAC 14-4.2-46.6) Eff June 22, 2001

### **Section R403.1.6; foundation anchorage**

Sec. 46.8. Make the following change to SECTION R403.1.6:  
**Change the fourth sentence of the second paragraph to read as follows: Bolts shall be at least one-half (½) inch (thirteen (13) millimeters) in diameter and shall extend a minimum of seven (7) inches (one hundred seventy-eight (178) millimeters) into the core or cell of masonry units or concrete.** (675 IAC 14-4.2-46.8) Eff March 24, 2004

### **Section R403.1.7.3; foundation elevation**

Sec. 47. Delete SECTION R403.1.7.3. (675 IAC 14-4.2-47) Eff June 22, 2001

### **Section R403.1.7.4; alternate setback and clearances**

Sec. 48. Delete the second sentence of SECTION R403.1.7.4. (675 IAC 14-4.2-48) Eff June 22, 2001

### **Section R403.1.8; foundations on expansive soils**

Sec. 49. Change SECTION R403.1.8 to read as follows: Foundation and floor slabs for buildings located on expansive soils shall be designed in accordance with the Indiana Building Code (675 IAC 13). (675 IAC 14-4.2-49) Eff June 22, 2001

### **Section R403.1.8.1; expansive soils classifications**

Sec. 49.1. Change SECTION R403.1.8.1(4) by deleting "UBC Standard 18-1" and substitute "The Indiana Building Code (675 IAC 13)". (675 IAC 14-4.2-49.1) Eff March 24, 2004

**Table R403.2; size of footings supporting piers and columns**

Sec. 49.3. Add TABLE R403.2 to read as follows:

**TABLE R403.2  
SIZE OF FOOTINGS SUPPORTING PIERS AND COLUMNS**

Spacing of Girder "S" <sup>1</sup>	Type of Loading <sup>2</sup>			Column Size Required <sup>3</sup>		Size of Plain Concrete Footing Required <sup>3</sup>
	A	B	C	Steel	Wood	
10'	5'-6"	---	---	3" Steel Pipe <sup>4</sup>	4" x 4"	2' x 2' x 8"
15'	4'-0"	---	---			
20'	---	---	---			
10'	8'-6"	5'-0"	---			
15'	6'-0"	4'-0"	---			
20'	4'-6"	---	---			
10'	12'-0"	9'-0"	8'-0"		6" x 6"	4' x 4' x 16" <sup>5</sup>
15'	10'-0"	8'-0"	7'-0"			
20'	8'-0"	7'-0"	6'-0"		8" x 8"	4'3" x 4'3" x 17" <sup>5</sup>
10'	16'-0"	12'-6"	11'-0"			
15'	13'-6"	10'-6"	10'-0"			
20'	12'-0"	9'-6"	8'-0"			
10'	20'-0"	16'-0"	13'-6"			
15'	17'-0"	13'-6"	11'-6"			
20'	15'-0"	12'-0"	10'-0"			

<sup>1</sup> The spacing "S" is the tributary load in the girder. It is found by adding the unsupported spans of the floor joists on each side which are supported by the girder and dividing by two (2).

<sup>2</sup> Figures under type of loading columns are the allowable girder spans.

Type A loading is for a girder supporting one (1) floor and ceiling.

Type B loading is for a girder supporting two (2) floors and one (1) ceiling.

Type C loading is for a girder supporting three (3) floors and one (1) ceiling.

<sup>3</sup> Required size of column is based on girder support from two (2) sides. Size of footing is based on allowable soil pressure of two thousand (2,000) pounds per square foot.

<sup>4</sup> Standard weight.

<sup>5</sup> Footing thickness is based on the use of plain concrete with an ultimate compressive strength of not less than two thousand (2,000) pounds per square inch at twenty-eight (28) days. If approved, the footing thickness may be reduced based on an engineered design utilizing higher strength concrete and/or reinforcement.

(675 IAC 14-4.2-49.3) March 24, 2004

**Figure R403.3(1); insulation placement for frost-protected footings in heated buildings**

Sec. 49.5. Amend the top drawing of Figure R403.3(1) by changing the "12 IN Min" vertical dimension from the top of slab to the bottom of the horizontal insulation to be "12 IN Min" from the top of

final grade to the bottom of the horizontal insulation.  
(675 IAC 14-4.2-49.5) Eff June 22, 2001

**Section R403.3.3; termite damage**

Sec. 50. Delete SECTION R403.3.3. (675 IAC 14-4.2-50) Eff June 22, 2001

## **Section R404.1; concrete and masonry foundation walls**

Sec. 51. Delete the last sentence of SECTION R404.1. (675 IAC 14-4.2-51) Eff June 22, 2001

### **Section R404.1.1; masonry foundation walls**

Sec. 52. Delete SECTION R404.1.1 and substitute to read as follows: Concrete masonry and clay foundation walls shall be constructed as set forth in TABLES R404.1.1(1), R404.1.1(2), R404.1.1(3), and R404.1.1(4); however, TABLE R404.1.1(1) ~~can~~ **may** only be used in Seismic Category C<sub>1</sub> when the unbalanced fill is four (4) feet or less and TABLES R404.1.1(2), R404.1.1(3), and R404.1.1(4) shall be used when the unbalanced fill exceeds four (4) feet in Category C<sub>1</sub>. These tables shall also comply with the provisions of this section and the applicable provisions of SECTIONS R606, R607, and R608. Rubble stone masonry foundation walls shall be constructed in accordance with SECTIONS R404.1.8 and R606.2.2. Rubble stone masonry walls shall not be used in Seismic Design Category C<sub>1</sub>. Foundations constructed in Seismic Design Category C<sub>1</sub> shall be exempt from the seismic requirements of SECTION R606.

**EXCEPTION: In Seismic Design Category C<sub>1</sub> foundation walls not supporting masonry veneer may be in accordance with TABLE R404.1.1(1).** (675 IAC 14-4.2-52) Eff March 24, 2004

### **Section R404.1.2; concrete foundation walls**

Sec. 53. Delete SECTION R404.1.2 and substitute to read as follows: Concrete foundation walls shall be constructed as set forth in TABLES R404.1.1(1), R404.1.1(2), R404.1.1(3), and R404.1.1(4) and shall also comply with the provisions of this section and the applicable provisions of SECTION R402.2. In Seismic Design Category C<sub>1</sub>, TABLE R404.1.1(1) can be used only when the height of the unbalanced fill is four (4) feet or less.

**EXCEPTION: In Seismic Design Category C<sub>1</sub> foundation walls not supporting masonry veneer may be in accordance with TABLE R404.1.1(1).** (675 IAC 14-4.2-53) Eff March 24, 2004

### **Section R404.1.5; foundation wall thickness based on walls supported**

Sec. 53.7. Delete the text of section R404.1.5 and substitute to read: The thickness of

concrete and masonry walls shall not be less than the thickness of the wall supported.

**EXCEPTION: A foundation wall of at least eight (8) inches (two hundred three (203) millimeters) thickness shall be permitted:**

1. Under brick veneered frame walls.
2. Under ten (10)-inch (two hundred fifty-four (254) millimeter)-wide cavity walls where the total height of the walls supported, including gables, is not more than twenty (20) feet (six thousand ninety-six (6,096) millimeters), provided the requirements of SECTIONS R404.1.1 and R404.1.2 are met.

(675 IAC 14-4.2-53.7) Eff March 24, 2004

### **Section R404.1.5.1; pier and curtain wall foundations**

Sec. 54. (a) Delete in the third line of SECTION R404.1.5.1 the word "diameter".

(b) Change in item 5 of SECTION R404.1.5.1, "accepted" to "approved". (675 IAC 14-4.2-54) Eff June 22, 2001

### **Section R404.2.1; wood grade**

Sec. 55. Delete the second and third sentences of SECTION R404.2.1. (675 IAC 14-4.2-55) Eff June 22, 2001

### **Section R404.4; insulating concrete form foundation walls**

Sec. 56. Delete the last sentence of SECTION R404.4. (675 IAC 14-4.2-56) Eff June 22, 2001

### **Section R404.4.7.2; termite hazards**

Sec. 57. Delete SECTION R404.4.7.2. (675 IAC 14-4.2-57) Eff June 22, 2001

### **Section R 405.2.3; drainage system**

Sec. 58. Change SECTION R405.2.3 to read as follows: In other than Group I soils, a sump shall be provided to drain the porous layer and footings. The sump pit shall be a minimum of eighteen (18) inches (four hundred fifty-seven (457) millimeters) in diameter or equivalent and a minimum of twenty-four (24) inches



(six hundred ten (610) millimeters) below the bottom of the basement floor. Where a porous layer of gravel, crushed stone, or coarse sand is used between the soil and the concrete floor slab, openings shall be made in the sump to allow drainage of that layer. The sump shall be capable of positive gravity or mechanical drainage to remove any accumulated water. (675 IAC 14-4.2-58) Eff June 22, 2001

### **Section R406.2; concrete and masonry foundation waterproofing**

Sec. 59. Change the first sentence of SECTION R406.2 to read as follows: Exterior foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be waterproofed with a membrane extending from the top of the footing to the finished grade. (675 IAC 14-4.2-59) Eff June 22, 2001

### **Section R407.3; structural requirement**

Sec. 60. Add in the first sentence of SECTION R407.3 between "the" and "bottom" "top and". (675 IAC 14-4.2-60) Eff June 22, 2001

### **Section R408.2; openings for under-floor ventilation**

Sec. 61. Make the following changes to **SECTION R408.2:** (a) Change Exception 1 in ~~SECTION R408.2~~ to read as follows: Ventilation openings to the outdoors are not required if ventilation openings to the interior are provided.

(b) Amend Exception 5 as follows: delete "Section N1102.1.7" and substitute "Chapter 11 of this code".

(675 IAC 14-4.2-61) Eff March 24, 2004

### **Section R408.3; access**

Sec. 62. Change SECTION R408.3 to read as follows: An access opening twenty-four (24) inches by eighteen (18) inches (six hundred ten (610) millimeters by four hundred fifty-seven (457) millimeters) shall be provided to the underfloor space. When the underfloor space access opening is through a wall, the opening shall be a minimum of twenty-four (24) inches (six hundred nine (609) millimeters) wide by sixteen (16) inches (four hundred six (406) millimeters) high with an areaway provided for access to the underfloor opening. The areaway shall be not less than twenty-four (24)

inches (six hundred nine (609) millimeters) long parallel to the wall at the access opening by sixteen (16) inches (four hundred six (406) millimeters) wide perpendicular to the wall at the center of the access opening. The bottom of the areaway shall be below the threshold of the access opening. The underfloor access opening shall not be under a door. (675 IAC 14-4.2-62) Eff June 22, 2001

### **Section R408.6; flood resistance**

Sec. 63. Delete the title and text of SECTION R408.6 and substitute to read as follows: ~~Sump pit. All nonhabitable underfloor spaces shall be graded so as to direct any water accumulation to a central collection point. A sump pit shall be installed at that point so that, in the event of excess water accumulation, the installation of a sump pump can be readily accomplished. The sump pit shall be a minimum of eighteen (18) inches (four hundred fifty-seven (457) millimeters) in diameter or equivalent and a minimum of twenty-four (24) inches (six hundred ten (610) millimeters) below the bottom of the crawl space grade. Where a porous layer of gravel, crushed stone, or coarse sand is used in the crawl space, openings shall be made in the sump to allow drainage of that layer. Under-floor drainage. In other than Group I soils, under-floor spaces shall be drained to prevent water accumulation by one (1) of the following methods:~~

1. The under-floor space shall be graded at a slope of not less than one (1) inch (twenty-five (25) millimeters) for each ten (10) feet (three thousand forty-eight (3,048) millimeters) to a gravity discharge or a sump pit having a minimum size of eighteen (18) inches (four hundred fifty-seven (457) millimeters) in diameter by twenty-four (24) inches (six hundred ten (610) millimeters) deep installed below the lowest point of the slope so that, in the event of excess water accumulation, a sump pump can be readily installed.

2. The under-floor space shall be graded at a slope of not less than one-half (1/2) inch (thirteen (13) millimeters) for each ten (10) feet (three thousand forty-eight (3,048) millimeters) to a gravity discharge or a sump pit having a minimum size of eighteen (18) inches (four hundred fifty-seven (457) millimeters) in diameter by twenty-four (24) inches (six hundred ten (610) millimeters) deep installed below the lowest point of the slope and not less than three (3) inches (seventy-six (76) millimeters) of granular material shall be placed between the ground surface and the vapor retarder

**so that, in the event of excess water accumulation, a sump pump can be readily installed.**

**The under floor-space shall comply with the requirements of SECTION R405.1. (675 IAC 14-4.2-63) Eff March 24, 2004**

### **Section R502.1; general**

Sec. 64. Delete the last sentence of SECTION R502.1. (675 IAC 14-4.2-64) Eff June 22, 2001

### **Section R502.1.4; prefabricated wood i-joists**

Sec. 65. Delete SECTION R502.1.4. (675 IAC 14-4.2-65) Eff June 22, 2001

### **Section R502.2.1; decks**

Sec. 66. Delete in the third sentence of SECTION R502.2.1 "verified during inspection" and substitute "achieved". (675 IAC 14-4.2-66) Eff June 22, 2001

### **Figure R502.2; floor construction**

Sec. 67. Add a note to the joist between the fireplace and the center girder to read as follows: TAIL JOIST - SEE SECTION R502.10. (675 IAC 14-4.2-67) Eff June 22, 2001

### **Table R502.3.2(2); floor joists spans for common lumber species**

Sec. 67.5. Change Table R502.3.1(2) as follows: Footnote a to Table R502.3.1(2)

Revise "Footnote a" to "note" and relocate above "For SI". Re-designate Footnote b to Footnote a.

(675 IAC 14-4.2-67.5) Eff June 22, 2001

### **Section R502.3.3; floor cantilevers**

Sec. 68. Add SECTION R502.3.3 after SECTION R502.3.2 to read as follows: SECTION R502.3.3 FLOOR CANTILEVERS

Floor cantilever spans shall not exceed the nominal depth of the wood floor joist.

EXCEPTION: Floor cantilevers constructed in accordance with TABLE R502.3.3 shall be permitted when supporting a light-frame bearing wall and roof only. The ratio of backspan to cantilever span shall be at least 3 to 1.

(675 IAC 14-4.2-68) Eff June 22, 2001

**Table R502.3.3; cantilever spans for floor joists**

Sec. 69. Add TABLE R502.3.3 after SECTION R502.3.3 to read as follows:

TABLE R502.3.3  
CANTILEVER SPANS FOR FLOOR JOISTS  
SUPPORTING LIGHT-FRAME EXTERIOR BEARING WALL AND ROOF ONLY <sup>a, b, c, f, g, h</sup>  
(Floor Live Load  $\leq$  40 psf, Roof Live Load  $\leq$  20 psf)

Member and Spacing	Maximum Cantilever Span (Uplift Force at Backspan Support in Lbs.) <sup>d, e</sup>											
	Ground Snow Load											
	$\leq$ 20 psf			30 psf			50 psf			70 psf		
	Roof Width			Roof Width			Roof Width			Roof Width		
	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.
2 × 8 @ 12"	20" (177)	15" (227)		18" (209)								
2 × 10 @ 16"	29" (228)	21" (297)	16" (364)	26" (271)	18" (354)		20" (375)					
2 × 10 @ 12"	36" (166)	26" (219)	20" (270)	34" (198)	22" (263)	16" (324)	26" (277)			19" (356)		
2 × 12 @ 16"		32" (287)	25" (356)	36" (263)	29" (345)	21" (428)	29" (367)	20" (484)		23" (471)		
2 × 12 @ 12"		42" (209)	31" (263)		37" (253)	27" (317)	36" (271)	27" (358)	17" (447)	31" (348)	19" (462)	
2 × 12 @ 8"		48" (136)	45" (169)		48" (164)	38" (206)		40" (233)	26" (294)	36" (230)	29" (304)	18" (379)

For SI: 1 in. = 25.4 mm, 1 psf = 0.0479 kN/m<sup>2</sup>

Notes:

<sup>a</sup> Tabulated values are for clear-span roof supported solely by exterior bearing walls.

<sup>b</sup> Spans are based on No. 2 Grade lumber of douglas fir-larch, hem-fir, southern pine, and spruce-fir for repetitive (3 or more) members.

<sup>c</sup> Ratio of backspan to cantilever span shall be at least 3:1.

<sup>d</sup> Connections capable of resisting the indicated uplift force shall be provided at the backspan support.

<sup>e</sup> Uplift force is for a backspan to cantilever span ratio of 3:1. Tabulated uplift values are permitted to be reduced by multiplying by a factor equal to 3 divided by the actual backspan ratio provided (3/backspan ratio).

<sup>f</sup> See SECTION R301.2.2.7.1 for additional limitations on cantilevered floor joists for detached one and two family dwellings in Seismic Design Categories D1 and D2 and townhouses in Seismic Design Categories C, D1, and D2.

<sup>g</sup> A full-depth rim joist shall be provided at the cantilevered end of the joists.

<sup>h</sup> Linear interpolation shall be permitted for building widths and ground snow loads other than shown.

<sup>i</sup> Full depth solid blocking required at bearing points.

(675 IAC 14-4.2-69) Eff June 22, 2001

### Section R502.8.1; sawn lumber

Sec. 69.5. Add an exception to SECTION R502.8.1 to read as follows: **EXCEPTION:** In 2 x 8 and larger solid lumber joists, holes up to fifty

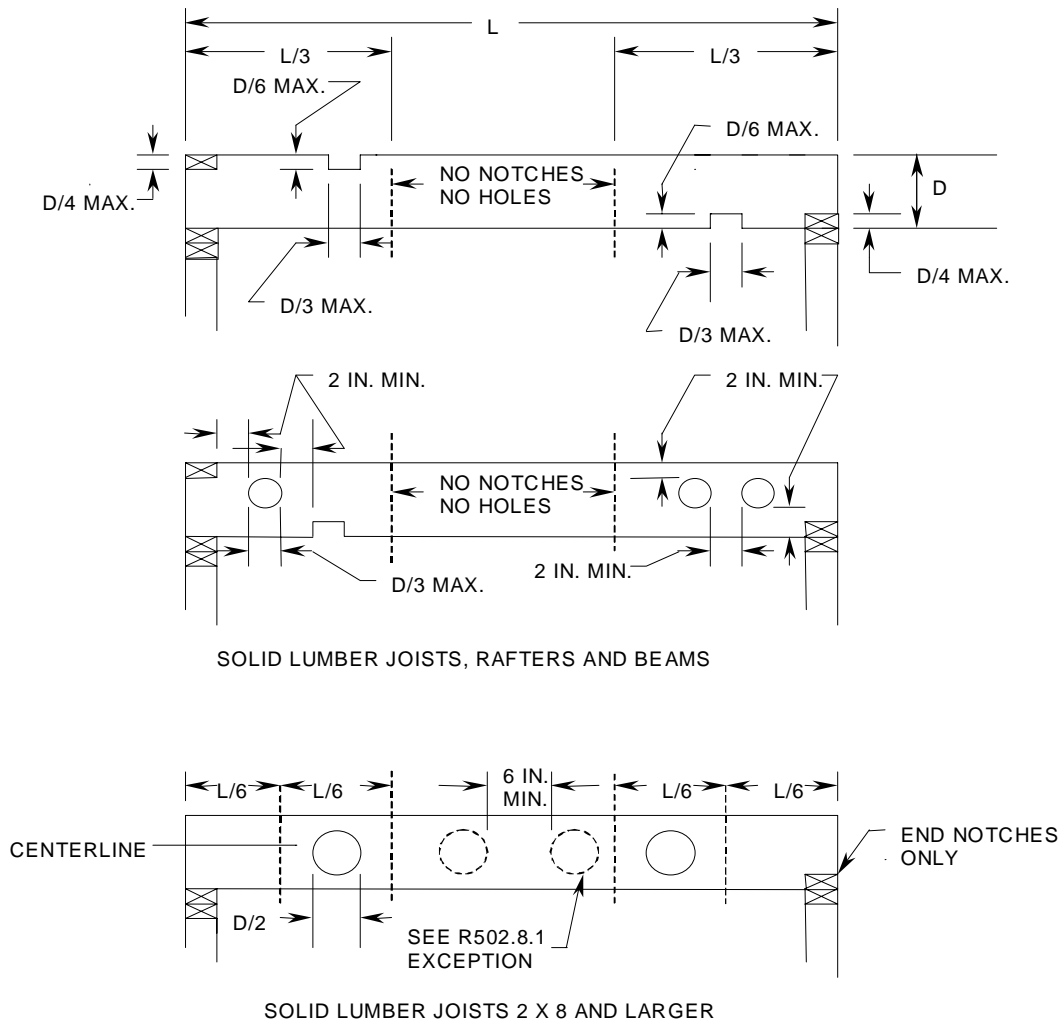
percent (50%) of the actual joist depth may be drilled at the center of the joist depth in the second and fifth sixths of the joist span. When the joist spans ninety percent (90%) or less of its maximum allowed span per TABLE R502.3.1(1), or TABLE

**R502.3.1(2), such holes may also be located in the center third of the joist span. Such hole shall be no closer than six (6) inches (one hundred fifty-two (152) millimeters) from any other hole. Except for end notches, no notches may be in the same half of**

**the span as a hole allowed by this exception. (675 IAC 14-4.2-69.5) Eff March 24, 2004**

**Figure R502.8; Cutting, Notching and Drilling**

**Sec. 69.6. Delete FIGURE R502.8 and insert FIGURE R502.8 to read as follows:**



**FIGURE R502.8  
CUTTING, NOTCHING AND DRILLING**

### **Section R502.11.1; design**

Sec. 70. Delete the last sentence of SECTION R502.11.1. (675 IAC 14-4.2-70) Eff June 22, 2001

### **Section R502.11.3; alterations to trusses**

Sec. 71. Change the first sentence of SECTION R502.11.3 to read as follows: Truss members and components shall not be cut, notched, spliced, or otherwise altered in any way without the ~~approval~~ **acceptance of the change by an architect registered under IC 25-4 or a professional engineer registered under IC 25-31.** ~~approval of the building official.~~ (675 IAC 14-4.2-71) Eff March 24, 2004

### **Section R502.11.4; truss design drawings**

Sec. 72. Delete SECTION R502.11.4 and substitute to read as follows: Truss design drawings shall be provided to the building official as required by the General Administrative Rules (675 IAC 12) for Class 1 structures or by local ordinance for Class 2 structures. (675 IAC 14-4.2-72) Eff June 22, 2001

## Section R602.1; identification

Sec. 73. Delete the last sentence of SECTION R602.1. (675 IAC 14-4.2-73) Eff June 22, 2001

## Table R602.3(1); fastener schedule for structural members

Sec. 73.5. In Description of Building Elements of TABLE R602.3(1), change "Double top plates, minimum forty-eight (48) -inch offset of end joints, face nail in lapped area" to read "Double top plates, minimum twenty-four (24) -inch (six hundred ten (610) millimeters) offset of end joints, face nail in lapped area". (675 IAC 14-4.2-73.5) Eff March 24, 2004

## Figure R602.3(1); typical wall, floor, and roof framing

Sec. 74. Change the note in FIGURE R602.3(1) stating "FOR BLOCKING AND BRIDGING - SEE SECTION R502.5" to read "FOR BLOCKING AND BRIDGING-SEE SECTION R502.7.1". (675 IAC 14-4.2-74) Eff June 22, 2001

## Figure R602.3(2); framing details

Sec. 75. Change the note in FIGURE R602.3(2) stating "CUT PLATE TIED WITH 25 GAGE STEEL ANGLE OR EQUIVALENT" to read "CUT PLATE TIED WITH 24 GAGE STEEL ANGLE A MINIMUM OF 1½" X 1½" WITH 8 - 16d NAILS AT EACH END OR EQUIVALENT". (675 IAC 14-4.2-75) Eff June 22, 2001

## Table R602.3.1; stud spacing

Sec. 75.5. (a) Change the title of Table 602.3.1 to read as follows:

Table R602.3.1 Maximum Allowable Length of Wood Wall Studs Exposed to Wind Speeds of 100 MPH or Less <sup>b, c</sup>.

(b) Change Table R602.3.1 as follows:

1. Change in the Supporting one floor and a roof >10 line, in the 16, 12, and 8 on-center-spacing (inches) columns "2 x 6" to "2 x 4".
2. Change in the Supporting two floors and a roof >10 line, in the 12,

and 8 on-center-spacing (inches) columns "2 x 6" to "2 x 4".

(675 IAC 14-4.2-75.5) Eff June 22, 2001

## Section R602.6.1; drilling and notching of top plate

Sec. 76. Change SECTION R602.6.1 to read as follows: When piping or ductwork is placed in or partly in an exterior wall or interior, braced or load-bearing wall, necessitating the drilling or notching of the top plate by more than fifty percent (50%) of its width, a galvanized metal tie not less than fifty-four thousandths (0.054) inch thick (one and thirty-seven hundredths (1.37) millimeters) (sixteen (16) gage) and one and five-tenths (1.5) inches (thirty-eight (38) millimeters) wide shall be fastened to a plate across and to each side of the opening with not less than eight 16d nails. See Figure R602.6.1.

EXCEPTION: When the entire side of the wall with the notch or drilling is covered by wood structural panel sheathing.

(675 IAC 14-4.2-76) Eff June 22, 2001

## Figure R602.6.1; top plate framing to accommodate piping

Sec. 77. Change FIGURE R602.6.1 as follows:

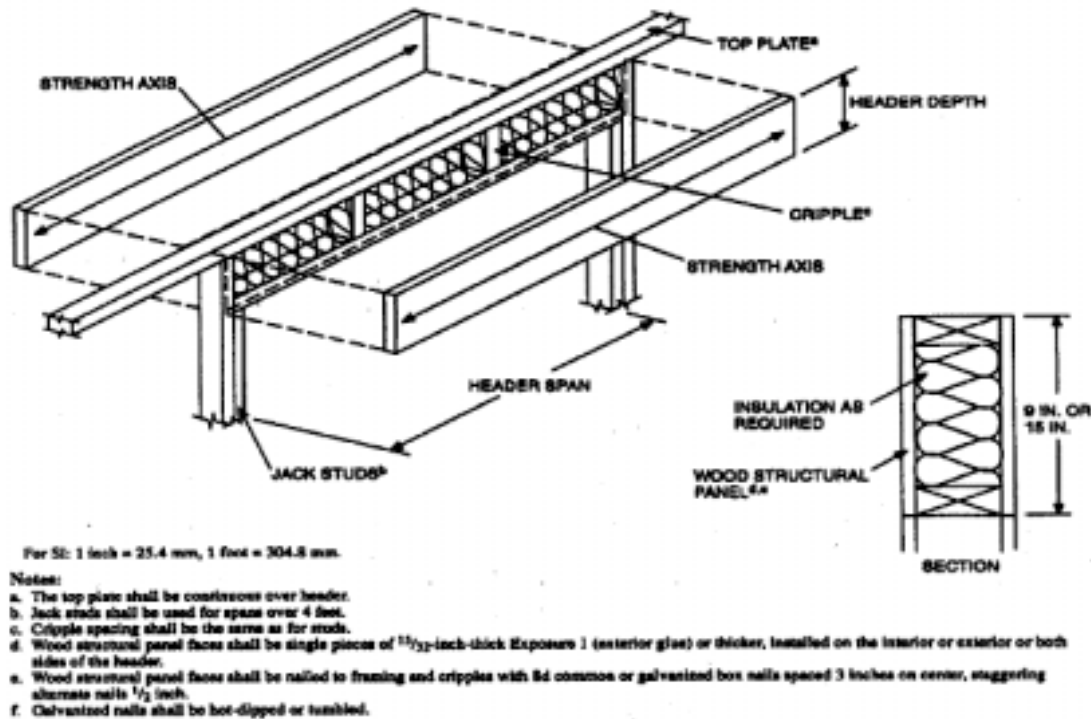
(a) Change the note stating "NOTCH GREATER THAN 50 PERCENT OF THE PLATE WIDTH" to read "DRILLING OR NOTCHING GREATER THAN 50 PERCENT OF THE PLATE WIDTH".

(b) Change the note stating "16 GAGE (0.054 IN.) AND 1.5 IN. WIDE METAL TIE ACROSS AND TO EACH SIDE OF THE NOTCH WITH 6-16d NAILS EACH SIDE" to read "16 GAGE (0.059 IN.) AND 1.5 IN. WIDE METAL TIE ACROSS AND TO EACH SIDE OF EACH PLATE OF THE DRILLING OR NOTCHING WITH 8-16d NAILS EACH SIDE". (675 IAC 14-4.2-77) Eff June 22, 2001



**Figure R602.7.2; typical wood structural panel box header construction**

Sec. 77.5. Amend Figure R602.7.2 to read as follows:



**FIGURE RR602.7.2**  
**TYPICAL WOOD STRUCTURAL PANEL BOX HEADER CONSTRUCTION**

(675 IAC 14-4.2-77.5) Eff June 22, 2001

## Section R602.7; headers

Sec. 77.6. Amend SECTION R602.7, Headers by adding a section to read as follows: SECTION R602.7.3, Location. Headers less than two (2) inches (fifty-one (51) millimeters) in width that span more than eight (8) feet (two thousand four hundred thirty-eight (2,438) millimeters) or headers less than four (4) inches (one hundred two (102) millimeters) in width that span more than sixteen (16) feet (four thousand eight hundred seventy-seven (4,877) millimeters shall be located at the top of the wall immediately below the top plate.

EXCEPTION: When a minimum of three-eighths (3/8) inch (ten (10) millimeter) structural wood sheathing is applied from the bottom of the header to the top of the wall and all joints on structural members are fastened in accordance with

TABLE R602.3(1) or TABLE R602.3(2). (675 IAC 14-4.2-77.6) Eff March 24, 2004

## Section R602.8.1; materials

Sec. 77.7. Change the second sentence of SECTION R602.8.1 to read as follows: Faced batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place shall be permitted as an acceptable fire block. (675 IAC 14-4.2-77.7) Eff March 24, 2004

## Table R602.10.3; wall bracing

Sec. 78. Change footnote (a) in TABLE R602.10.3 by deleting "Section 1615 of the International Building Code" to read "the Indiana

Building Code 675 IAC 13". (675 IAC 14-4.2-78) Eff June 22, 2001

### **Table R603.6(5); header to king stud connection requirements**

Sec. 78.5. Change Table R603.6(5) footnote d as follows: <sup>d</sup> 12-No. 8 screws can be replaced by an up-lift connector which has a capacity of the number of screws multiplied by 164 pounds (e.g., 12-No. 8 screws can be by an up-lift connector whose capacity exceeds 12 by 164 pounds = 1,968 pounds). (675 IAC 14-4.2-78.5) Eff June 22, 2001

### **Section R604.1; identification and grade**

Sec. 79. Delete from the last sentence of SECTION R604.1 "or certificate of inspection issued by an approved agency". (675 IAC 14-4.2-79) Eff June 22, 2001

### **Section R605.1; identification and grade**

Sec. 80. Delete from the first sentence of SECTION R605.1 "or certificate of inspection issued by an approved agency". (675 IAC 14-4.2-80) Eff June 22, 2001

### **Section R606.1.1; professional registration not required**

Sec. 81. Delete SECTION R606.1.1. (675 IAC 14-4.2-81) Eff June 22, 2001

### **Section R606.2; thickness of masonry**

Sec. 81.2. Add a second sentence to SECTION R606.2 to read as follows: **The nominal thickness of foundation walls shall conform to the requirements of SECTION R404.** (675 IAC 14-4.2-81.2) Eff March 24, 2004

### **Section R606.2.1; minimum thickness**

Sec. 81.3. Delete the last sentence of SECTION R606.2.1 and substitute to read as follows: **The minimum thickness of masonry foundation walls shall comply with SECTION R404. Masonry walls, except masonry foundation walls, shall be laterally supported in either the horizontal or vertical direction at intervals as required by**

**SECTION R606.8.** (675 IAC 14-4.2-81.3) Eff March 24, 2004

### **Section R606.10; anchorage**

Sec. 81.7. Add an exception to SECTION R606.10 to read as follows: **EXCEPTION: Masonry foundation walls in Seismic Design Category C<sub>1</sub> are exempt from the requirements of Figure R606.10(3), and shall comply with the requirements of SECTION R404.** (675 IAC 14-4.2-81.7) Eff March 24, 2004

### **Section R606.11; seismic requirements**

Sec. 82. ~~Add at the end of the first sentence of~~ **Make the following changes to SECTION R606.11: "C<sub>1</sub>" between "C," and "D<sub>1</sub>."**

**1. Add at the end of the first sentence "C<sub>1</sub>" between "C" and "D<sub>1</sub>".**

**2. Add an exception to read as follows: EXCEPTION: Masonry foundation walls in Seismic Design Category C and C<sub>1</sub> are exempt from the requirements of Figure R606.10(3) and shall comply with SECTION R404.** (675 IAC 14-4.2-82) Eff March 24, 2004

### **Section R606.11.2; Seismic Design Category C**

Sec. 83. (a) Change the title and text of SECTION R606.11.2 to read as follows: Seismic Design Category C and C<sub>1</sub>. Structures located in Seismic Design Category C and C<sub>1</sub> shall comply with the requirements of this section.

**(b) Add an exception to read as follows: EXCEPTION: Masonry foundation walls in Seismic Design Category C and C<sub>1</sub> are exempt from the requirements of Figure R606.10(3), and shall comply with SECTION R404.** (675 IAC 14-4.2-83) Eff March 24, 2004

### **Figure R606.10(2); requirements for reinforced grouted masonry construction in Seismic Design Category C**

Sec. 84. Add to the end of the title to FIGURE R606.10(2) "and C<sub>1</sub>". (75 IAC 14-4.2-84) Eff June 22, 2001

### **Section R607.1.2; masonry in seismic design categories A, B, C and C<sub>1</sub>**

Sec. 84.5. Change SECTION R607.1.2 to read as follows: R607.1.2 Masonry in Seismic Design Categories A, B, C, and C<sub>1</sub>. Mortar for masonry serving as the lateral-force-resisting system in Seismic Design Categories A, B, C, and C<sub>1</sub> shall be Type M, S or N mortar. (675 IAC 14-4.2-84.5) Eff June 22, 2001

#### **Section R609.1.5; cleanouts**

Sec. 85. Change SECTION R609.1.5 to read as follows: Cleanouts shall be provided as specified in this section. The cleanouts shall be sealed before grouting. (675 IAC 14-4.2-85) Eff June 22, 2001

#### **Section R609.2.2; grout spaces**

Sec. 85.5. Change in SECTION R609.2.2 the word "course" to "coarse". (675 IAC 14-4.2-85.5) Eff June 22, 2001

#### **Section R609.4.1; construction**

Sec. 86. Delete in SECTION R609.4.1, item number 4, the following: "and special inspection during grouting shall be required". (675 IAC 14-4.2-86) Eff June 22, 2001

#### **Section R611.1; general**

Sec. 87. Delete the last sentence of SECTION R611.1. (675 IAC 14-4.2-87) Eff June 22, 2001

## **Section R702.4.2; gypsum backer**

Sec. 88. Change SECTION R702.4.2 to read as follows: Gypsum board utilized as the base or backer board for adhesive application of ceramic tile or other nonabsorbent finish material shall conform with ASTM C630 or C1178. Water-resistant gypsum backing board shall be permitted to be used on ceilings where framing spacing does not exceed twelve (12) inches (three hundred five (305) millimeters) on center for one-half (½) inch thick (twelve and seven-tenths (12.7) millimeters) or sixteen (16) inches (four hundred six (406) millimeters) for five-eighths (⅝) inch thick (fifteen and nine-tenths (15.9) millimeters) gypsum board. Water-resistant gypsum board shall not be installed over a vapor retarder or in a shower or tub compartment. All cut or exposed edges, including those at wall intersections, shall be sealed as recommended by the manufacturer. (675 IAC 14-4.2-88) Eff June 22, 2001

## **Section R 703.4; attachments**

Sec. 89. Change SECTION R703.4 to read as follows: All wall coverings shall be securely fastened in accordance with Table R703.4 or with other approved aluminum, stainless steel, zinc-coated, or other approved corrosion-resistive fasteners. (675 IAC 14-4.2-89) Eff June 22, 2001

## **Table R703.4; weather-resistant siding attachment and minimum thickness**

Sec. 89.2. Change TABLE R703.4 as follows:

1. In the column titled "Sheathing paper required", change "NO" to "YES" at all three (3) places for Horizontal Aluminum; change the "No" to "Yes" for Vinyl Siding and change (13) to (m) for Brick Veneer, Concrete Masonry veneer.
2. Change footnote m to read as follows: For masonry veneer, a weather-resistant sheathing paper is not required over water-repellent sheathing materials applied according to manufacturer's instructions and a three-fourths (¾) -inch (nineteen (19) millimeter) air space is provided. When the three-fourths (¾) -inch (nineteen (19) millimeter) space is filled

with mortar, a weather-resistant sheathing paper is required over the sheathing.

3. In the column titled "Sheathing paper required", add a footnote designation "s" at all three (3) places for Horizontal Aluminum and for Vinyl Siding.
4. Add a new footnote "s" to read as follows: For horizontal aluminum and vinyl siding, a weather-resistant sheathing paper is not required over water-repellent sheathing materials applied according to the manufacturer's instruction. (675 IAC 14-4.2-89.2) Eff March 24, 2004

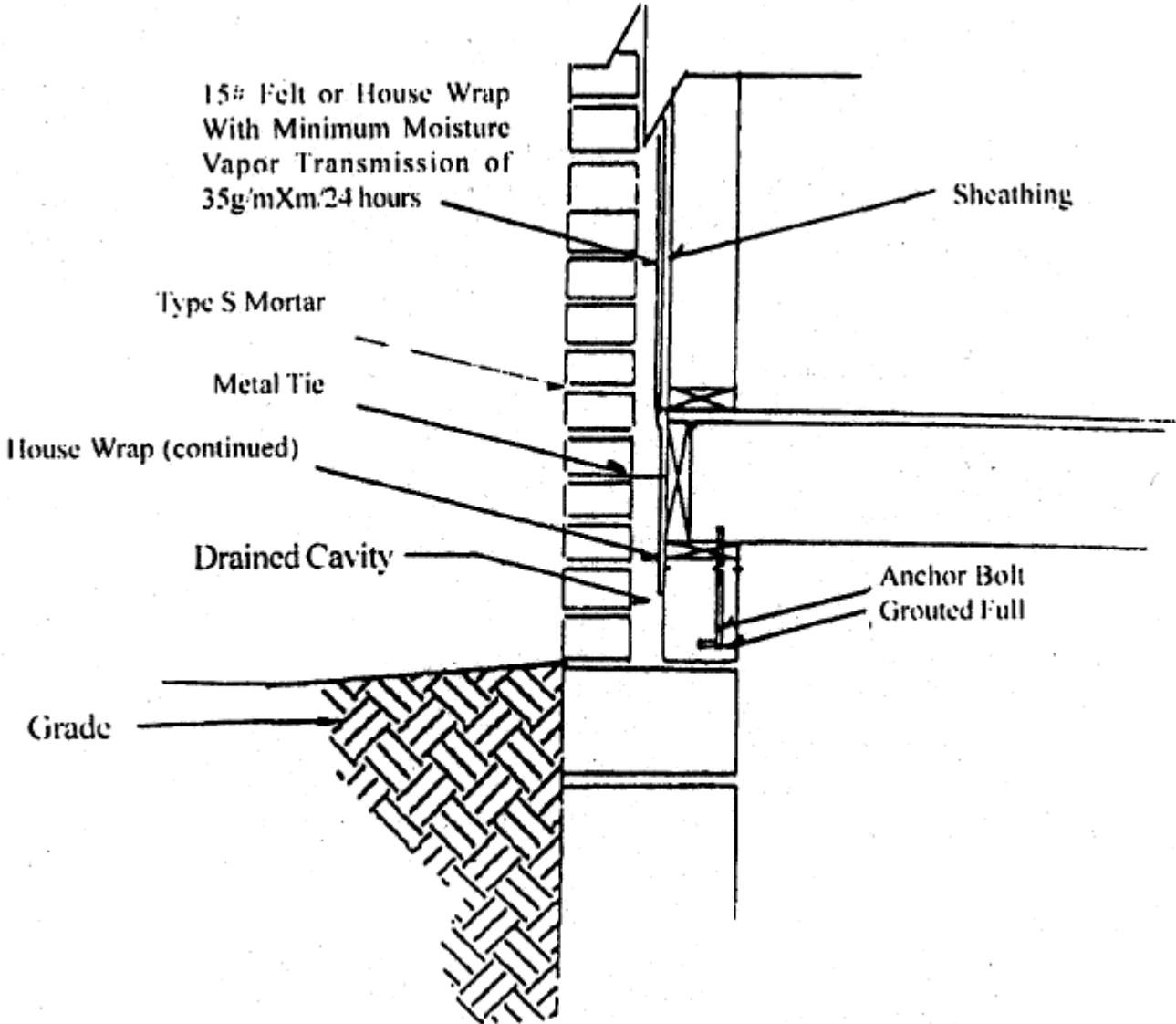
## **Section R703.7; stone and masonry veneer, general**

Sec. 89.5. Change in SECTION R703.7 to read as follows: R703.7 Stone and masonry veneer, general. All stone and masonry veneer shall be installed in accordance with this chapter, Table R703.4, Figure R703.7 or the alternate masonry veneer wall details, Figure R703.3A. Such veneers installed over a backing of wood or cold-formed steel shall be limited to the first story above grade and shall not exceed 5 inches (127 mm) in thickness.

EXCEPTIONS: 1. In Seismic Design Categories A and B, exterior masonry veneer with a backing of wood or cold-formed steel framing shall not exceed 30 feet (9,144 mm) in height above the noncombustible foundation, with an additional 8 feet (2,348 mm) permitted for ends.

2. In Seismic Design Categories C and C<sub>1</sub>, exterior masonry veneer with a backing of wood or cold-formed steel framing shall not exceed 30 feet (9,144 mm) in height above the noncombustible foundation, with an additional 8 feet (2,348 mm) permitted for gabled ends. In other than the topmost story, the length of bracing shall be 1.5 times the length otherwise required in Chapter 6.

3. Where type S mortar is used throughout, the alternate masonry veneer wall detail Figure R703.7A may be used.



(675 IAC 14-4.2-89.5) Eff June 22, 2001

**Figure R703.7; stone and masonry veneer, general**

Sec. 89.6. Amend Figure R703.7 by modifying the flashing detail to show the horizontal flashing between the veneer and the top of the top course of the foundation wall and delete the horizontal flashing between the sill plate and the top course of the foundation wall. SECTION R703.7.4.3 by deleting "1 inch (25.4 mm)" and inserting "three-fourths (3/4)-

**Section R703.7.6; weepholes**

Sec. 89.8. Add an exception to the end. Delete the title and text of SECTION R703.7.6 to read as follows: EXCEPTION: Where type S mortar is used throughout the masonry veneer construction, Figure R703.7A may be used. and substitute as follows: **R703.7.6 Drained cavity.** The three-fourths (3/4)-inch (nineteen (19) millimeter) air cavity shall be drained to the exterior of the structure at intervals of not more than thirty-three (33) inches (eight

**hundred thirty-eight (838) millimeters) on center. Each drain shall be not less than three-sixteenths (3/16)-inch (four and eight-tenths (4.8) millimeters) in diameter, located immediately above the flashing.** (675 IAC 14-4.2-89.8) Eff March 24, 2004

**Sections R703.7.2.1; support by a steel angle; R703.7.2.2; support by roof construction; and R703.7.4.2; air space**

Sec. 89.9 (a) Delete SECTION R703.7.2.1.  
(b) Delete SECTION R703.7.2.2.  
(c) Change the text of SECTION R703.7.4.2 to read as follows: **The veneer shall be separated from the sheathing by an air space of not less than three-fourths (3/4) inch (nineteen (19) millimeters) but not more than four and one-half (4 ½) inches (one hundred fourteen (114) millimeters). The weather-resistant sheathing paper as required by SECTION R703.2 is not required over water-repellent sheathing materials installed according to manufacturer's instructions.** (675 IAC 14-4.2-89.9) Eff March 24, 2004

#### **Section R703.8; flashing**

Sec. 90. Delete in SECTION R703.8, item number 1, "approved by the building official" and substitute "allowed by the manufacturer's installation instructions". (675 IAC 14-4.2-90) Eff June 22, 2001

## **Section R802.1; identification and grade**

Sec. 91. Delete the last sentence of SECTION R802.1. (675 IAC 14-4.2-91) Eff June 22, 2001

## **Section R802.10.1; truss design drawings**

Sec. 92. Delete SECTION R802.10.1 and substitute to read as follows: Truss design drawings shall be provided to the building official as required by the General Administrative Rules (675 IAC 12) for Class 1 structures or by local ordinance for Class 2 structures. (675 IAC 14-4.2-92) Eff June 22, 2001

## **Section R802.10.2; design**

Sec. 93. Delete the last sentence of SECTION R802.10.2. (675 IAC 14-4.2-93) Eff June 22, 2001

## **Section R802.10.3; bracing**

Sec. 94. Change the first sentence of SECTION R802.10.3 to read as follows: Trusses shall be braced to prevent rotation and to provide lateral stability. (675 IAC 14-4.2-94) Eff June 22, 2001

## **Section R802.10.4; alterations to trusses**

Sec. 95. Change the first sentence of SECTION R802.10.4 to read as follows: Truss members shall not be cut, notched, drilled, spliced, or otherwise altered in any way ~~unless~~ **without the acceptance of an architect registered under IC 25-4 or a professional engineer registered under IC 25-31, the manufacturer of the truss members, or** approved by the building official. (675 IAC 14-4.2-95) Eff March 24, 2004

## **Section R802.11; roof tie-down**

Sec. 96. (a) Change the title to SECTION R802.11 to read as follows: R802.11 Roof tie-down. R802.11.1 Roof tie-down.

(b) Change the last sentence of SECTION R802.11.1 to read as follows: The base wind uplift pressure on roof assemblies shall be determined using an Effective wind area of one hundred (100) square feet (nine and three-tenths (9.3) m<sup>2</sup>) and Zone 1 in TABLE R301.2(2) and then adjusted for height and exposure as required by TABLE R301.2(3) to determine the actual

site specific wind uplift pressure. (675 IAC 14-4.2-96) Eff June 22, 2001

## **TABLE R802.11**

Sec. 96.2. In footnote (d), delete "Figure R301.2(4)" and substitute "TABLE R301.2(1)". (675 IAC 14-4.2-96.2) Eff March 24, 2004

## **Section R803.2.1; identification and grade**

Sec. 97. Delete from the first sentence of SECTION R803.2.1 "or certificate of inspection issued by an approved agency". (675 IAC 14-4.2-97) Eff June 22, 2001

## **Section R806.1; ventilation required**

Sec. 97.5. Add an exception to Section R806.1 to read as follows: **EXCEPTION: Mechanical ventilation is permitted provided the following conditions are met:**

1. The installation complies with manufacturers' instructions.
2. A humidistat is included with the installation.
3. An ammeter or equivalent device is installed in a readily visible location.

(675 IAC 14-4.2-97.5) Eff March 24, 2004

## **Section R808.1; combustible insulation**

Sec. 97.9. In SECTION R808.1, delete "Section N1101.3" and substitute "Chapter 11 of this code". (675 IAC 14-4.2-97.9) Eff March 24, 2004

#### **Section R903.4.1; overflow drains and scuppers**

Sec. 98. Delete the last paragraph of SECTION R903.4.1. *(675 IAC 14-4.2-98)* Eff June 22, 2001

#### **Section R904.3; material specifications and physical characteristics**

Sec. 99. Delete the last sentence of SECTION R904.3. *(675 IAC 14-4.2-99)* Eff June 22, 2001

#### **Section R907.1; general**

Sec. 100. Change SECTION R907.1 to read as follows: Materials and methods of application used for recovering or replacing an existing roof shall comply with the requirements of this chapter. Roof coverings shall be designed and installed in accordance with this code and the approved manufacturer's installation instructions such that the roof covering shall serve to protect the building or structure.

EXCEPTION: Reroofing shall not be required to meet the minimum design slope requirement of one-fourth ( $\frac{1}{4}$ ) vertical in twelve (12) units horizontal (two percent (2%) slope) in SECTION R905 for roofs that provide positive roof drainage.  
*(675 IAC 14-4.2-100)* Eff June 22, 2001

#### **Section R907.3; recovering versus replacement**

Sec. 101. Change in SECTION R907.3, item number 3, "two" to "three". *(675 IAC 14-4.2-101)* Eff June 22, 2001



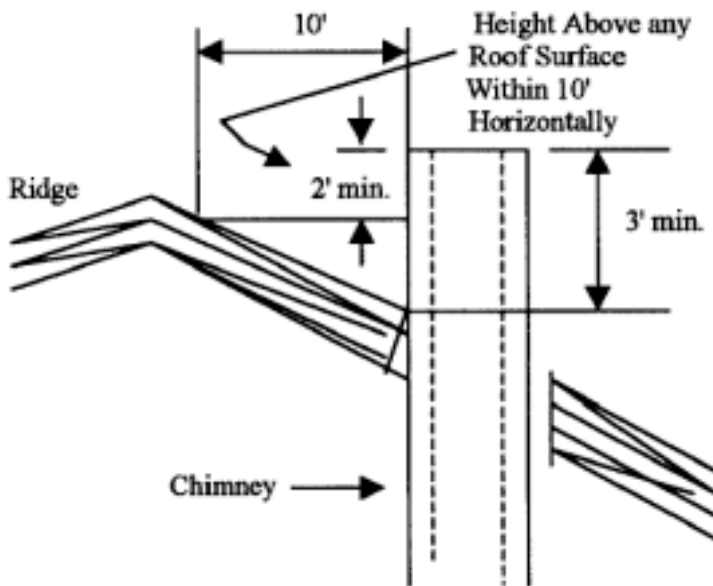
### Section R1001.6; termination

Sec. 102. Add in SECTION R1001.6 the following: (a) Add "highest" after "the" and before "point".

(b) Add a paragraph to the end of SECTION R1001.6 to read: See FIGURE R1001.6. (675 IAC 14-4.2-102) Eff June 22, 2001

### Figure R1001.6; chimney termination

Sec. 103. Add FIGURE R1001.6 as follows:  
FIGURE R1001.6



(675 IAC 14-4.2-103) Eff June 22, 2001

### Section R1001.6.1; spark arrestors

Sec. 104. Add SECTION R1001.6.1 after SECTION R1001.6 to read as follows: R1001.6.1 Spark arrestors. When a spark arrestor is installed on a masonry chimney, the spark arrestor shall meet all of the following requirements:

1. The net-free area of the arrestor shall be not less than four (4) times the net-free area of the outlet of the chimney flue it serves.
2. The arrestor screen shall have heat and corrosion resistance equivalent to nineteen (19) gage galvanized steel or twenty-four (24) gage stainless steel.
3. Openings shall not permit the passage of spheres having a diameter larger than one-half ( $\frac{1}{2}$ ) inch nor block the passage of spheres

having diameter of less than three-eighths ( $\frac{3}{8}$ ) inch.

4. The spark screen shall be accessible for cleaning and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

(675 IAC 14-4.2-104) Eff June 22, 2001

### Section R1003.3; seismic reinforcing

Sec. 105. Change the first sentence of SECTION R1003.3 to read as follows: Masonry or concrete chimneys in Seismic Design Category  $C_1$  shall be reinforced. (675 IAC 14-4.2-105) Eff June 22, 2001

### Section R1003; seismic anchorage

Sec. 105.5. Change SECTION R1003.4 by deleting  $D_1$  and  $D_2$  and substituting  $C_1$ . (675 IAC 14-4.2-105.5) Eff June 22, 2001

### Section R1005.1; exterior air

Sec. 106. Delete in SECTION R1005.1 "unless the room is mechanically ventilated and controlled so that the indoor pressure is neutral or positive.". (675 IAC 14-4.2-106) Eff June 22, 2001

## **Chapter 11; energy efficiency**

Sec. 107. Delete **the text of** Chapter 11 in its entirety and substitute the following:

### **SECTION N1101; GENERAL**

**N1101.1 Scope.** This chapter sets forth energy-efficiency requirements for the design and construction of buildings regulated by this code.

**EXCEPTION:** Provided that they are separated by building envelope assemblies from the remainder of the building, portions of the building that do not enclose conditioned space shall be from the building envelope provisions but shall comply with the provisions for building mechanical and service water systems.

**N1101.2 Compliance.** Compliance with this chapter shall be demonstrated by meeting the requirements of the applicable sections and tables of SECTIONS N1101, N1102, N1104, and N1105 of this chapter. Compliance with SECTION N1103 or N1106 is an alternative to compliance with SECTION N1102. Where applicable, provisions are based on the climate zone where the building is located as set forth in FIGURE 11-1 below.



FIGURE 11-1

**N1101.2.1 Eligible buildings.** Compliance for detached one (1) and two (2) family dwellings and for townhouses shall be demonstrated by meeting the requirements of subsection N1101.2.

**N1101.3 Materials and equipment.** Materials and equipment shall be identified as complying with the provisions of this chapter. Materials and equipment shall be listed and labeled for their intended use and shall be installed in accordance with the manufacturer's installation instructions.

**N1101.3.1 Insulation.** The thermal resistance (R-value) shall be indicated on all insulation and the insulation installed such that the R-value can be verified during inspection, or evidence of compliance of the installed R-value shall be provided at the job site by the insulation installer.

**N1101.3.2 Fenestration.** The U-factor of

fenestration shall be determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer. The solar heat gain coefficient (SHGC) of fenestration shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

**N1101.3.2.1 Default fenestration performance.** When a manufacturer has not determined a fenestration product's U-factor in accordance with NFRC 100, compliance shall be determined by assigning such products a default U-factor from TABLES 11-1 and 11-2. When a manufacturer has not determined a fenestration product's SHGC in accordance with NFRC 200, compliance shall be determined by assigning such products a default SHGC from TABLE 11-3.

**TABLE 11-1**  
**U-FACTOR DEFAULT TABLE FOR WINDOWS,**  
**GLAZED DOORS, AND SKYLIGHTS**

<b>FRAME MATERIAL AND PRODUCT TYPE <sup>a</sup></b>	<b>SINGLE GLAZED</b>	<b>DOUBLE GLAZED</b>
<b>Metal without thermal break</b>		
Operable (including sliding and swinging glass doors)	<b>1.27</b>	<b>0.87</b>
Fixed	<b>1.13</b>	<b>0.69</b>
Garden window	<b>2.60</b>	<b>1.81</b>
Curtain wall	<b>1.22</b>	<b>0.79</b>
Skylight	<b>1.98</b>	<b>1.31</b>
Site-assembled sloped/overhead glazing	<b>1.36</b>	<b>0.82</b>
<b>Metal with thermal break</b>		
Operable (including sliding and swinging glass doors)	<b>1.08</b>	<b>0.65</b>
Fixed	<b>1.07</b>	<b>0.63</b>
Curtain wall	<b>1.11</b>	<b>0.68</b>
Skylight	<b>1.89</b>	<b>1.11</b>
Site-assembled sloped/overhead glazing	<b>1.25</b>	<b>0.70</b>
<b>Reinforced vinyl/metal clad wood</b>		
Operable (including sliding and swinging glass doors)	<b>0.90</b>	<b>0.57</b>
Fixed	<b>0.98</b>	<b>0.56</b>
Skylight	<b>1.75</b>	<b>1.05</b>
<b>Wood/vinyl/fiberglass</b>		
Operable (including sliding and swinging glass doors)	<b>0.89</b>	<b>0.55</b>
Fixed	<b>0.98</b>	<b>0.56</b>
Garden window	<b>2.31</b>	<b>1.61</b>
Skylight	<b>1.47</b>	<b>0.84</b>

<sup>a</sup> Glass block assemblies with mortar but without reinforcing or framing shall have a U-factor of 0.60.

**TABLE 11-2**  
**U-FACTOR DEFAULT TABLE FOR NONGLAZED DOORS**

DOOR TYPE	WITH FOAM CORE	WITHOUT FOAM CORE
Steel doors (1.75 inches thick)	0.35	0.60
	WITHOUT STORM DOOR	WITH STORM DOOR
Wood doors (1.75 inches thick)		
Panel with 0.438-inch panels	0.54	0.36
Hollow core flush	0.46	0.32
Panel with 1.125-inch panels	0.39	0.28
Solid core flush	0.40	0.26

For SI: 1 inch = 25.4 mm.

**TABLE 11-3**  
**SHGC DEFAULT TABLE FOR FENESTRATION**

PRODUCT DESCRIPTION	SINGLE GLAZED				DOUBLE GLAZED			
	Clear	Bronze	Green	Gray	Clear + Clear	Bronze + Clear	Green + Clear	Gray + Clear
Metal frames								
Operable	0.75	0.64	0.62	0.61	0.66	0.55	0.53	0.52
Fixed	0.78	0.67	0.65	0.64	0.68	0.57	0.55	0.54
Nonmetal frames								
Operable	0.63	0.54	0.53	0.52	0.55	0.46	0.45	0.44
Fixed	0.75	0.64	0.62	0.61	0.66	0.54	0.53	0.52

N1101.3.2.2 Air leakage. The air leakage of prefabricated fenestration shall be determined by the manufacturer. Alternatively, the fenestration shall be installed in accordance with the maximum allowable rates in TABLE 11-4.

**EXCEPTION:** Site-constructed windows and doors sealed in accordance with SECTION N1101.3.2.2.1.

**TABLE 11-4**  
**ALLOWABLE AIR FILTRATION RATES<sup>a</sup>**

WINDOWS (cfm per square foot of window area)	DOORS (cfm per square foot of door area)	
	Sliders	Swinging
0.3 <sup>b, c</sup>	0.3	0.5

For SI: 1 cfm/ft<sup>2</sup> = 0.00508 m<sup>3</sup>/ (s·m<sup>2</sup>).

<sup>a</sup> When tested in accordance with ASTM E283.

<sup>b</sup> See AAMA/WDMA 101/LS. 2.

<sup>c</sup> See ASTM D4099.

**N1101.3.2.2.1 Caulking and sealants.** Exterior joints, seams, or penetrations in the building envelope that are sources of air leakage shall be sealed with caulking materials, closed with gasketing systems, taped, or covered with moisture vapor-permeable house-wrap. Sealing materials spanning joints between dissimilar construction materials shall allow for differential expansion and contraction of the construction materials. This includes sealing around tubs and showers, at the attic and crawl space panels, at recessed lights, and around all plumbing and electrical penetrations. These are openings located in the building envelope between conditioned space and unconditioned space or between the conditioned space and the outside.

**SECTION N1102 COMPLIANCE BY  
PRESCRIPTIVE SPECIFICATIONS ON  
INDIVIDUAL COMPONENTS**

**N1102.1 Thermal performance criteria.** The minimum required insulation R-value or maximum required U-factor for each element in the building thermal envelope (fenestration, roof/ceiling, opaque wall, floor, slab edge, crawl space wall, and basement wall) shall be in accordance with criteria in TABLE 11-5.

**TABLE 11-5**  
**INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENTS <sup>a</sup>**  
**78% AFUE or 6.8 HSPF and 10 SEER**

<b>REGION</b> See Figure 11-1	<b>GLAZING U-VALUE</b>	<b>SKYLIGHT U-VALUE<sup>b</sup></b>	<b>CEILING R-VALUE</b>	<b>WALL R-VALUE<sup>ce</sup></b>	<b>FLOOR R-VALUE<sup>d</sup></b>	<b>BASEMENT WALL R-VALUE</b>	<b>SLAB PERIMETER R-VALUE/DEPTH</b>	<b>CRAWL SPACE WALL R-VALUE<sup>f</sup></b>
North	.35	0.60	30	15 plus 1	25	13 / 7 ft.	10 / 4 ft.	7 / 3.2 ft.
Central	.45	0.60	30	13 plus 1	25	10 / 7 ft.	10 / 4 ft.	10 / 2.7 ft.
South	.45	0.60	30	13 plus 1	19	7 / 7 ft.	7 / 3 ft.	7 / 2.7 ft. 80% AFUE
Ohio River	.45	0.60	30	13	19	7 / 4 ft.	3.5 / 2 ft.	3 / 2.2 ft.

<sup>a</sup> R-values are minimums. U-factors and SHGC are maximums. R-19 insulation shall be permitted to be compressed except as noted. The glazing U-factors are for windows only. The default U-factors for doors are in TABLES 11-1 and 11-2. The maximum door U-values to be allowed with this table are as follows:

main exit, 0.54; other exit doors, 0.34; sliding glass doors, French doors and atrium doors, 0.55.

<sup>b</sup> Skylights are glazed fenestration less than 60 degrees from horizontal.

<sup>c</sup> Cavity insulation plus sheathing (wood frame walls only). Steel frame walls require the installation of an exterior insulated sheathing in accordance with SECTION N1102.1.12.

<sup>d</sup> Or insulation sufficient to fill the cavity, R-19 minimum.

<sup>e</sup> Box or rim joist cavity spaces must be insulated R-22 minimum, entire exterior perimeter.

<sup>f</sup> The insulation shall be installed from the top of the slab to the required depth, horizontally or vertically, or a combination of both, until the required depth is achieved.



N1102.1.1 Exterior walls. The minimum required R-value in TABLES 11-5 shall be met by the sum of the R-values of the insulation materials installed in framing cavities and/or sheathing applied and not by framing, drywall, or exterior siding materials. Insulation separated from the conditioned space by a vented space shall not be counted towards the required R-value.

**N1102.1.1.1 Mass walls.** For purposes of this section, the following definitions apply: Mass walls with exterior insulation position are those that have the entire effective mass layer interior to an insulation layer. Mass walls with integral insulation position are those that have either insulation and mass materials well mixed as in wood (logs) or substantially equal amounts of mass material on the interior and exterior of insulation as in concrete masonry units with insulated cores or masonry cavity walls. Mass walls with interior insulation position are those that have the mass material located exterior to the insulating material.

Mass walls shall be permitted to meet the mass

wall criteria in TABLE 11-6 based on the insulation position and the climate zone where the building is located. Other mass walls shall meet the frame wall criteria for the building type and the climate zone where the building is located based on the sum of interior and exterior insulation.

Mass walls not meeting either of the above descriptions for exterior or integral positions shall meet the requirements for other mass walls in TABLE 11-6. The R-value for a solid concrete wall with a thickness of four (4) inches (one hundred two (102) millimeters) or greater is R-1.1. R-values for other assemblies are permitted to be based on hot box tests.

**TABLE 11-6  
MASS WALL PRESCRIPTIVE BUILDING ENVELOPE REQUIREMENTS**

Building Location		Mass Wall Assembly R-Value (hr ft <sup>2</sup> °F) / Btu	
Zone	HDD	Exterior or Integral Insulation	Other Mass Walls
Northern	6,300	R-13	R-15.2
Central	5,700	R-13	R-15.2
South	5,000	R-8	R-15.2
Ohio River	4,300	R-8	R-15.2

For SI: 1(hr ft<sup>2</sup> °F) / Btu = 0.176 m<sup>2</sup> K/W

**N1102.1.1.2. Steel-frame walls.** When steel framing construction is used, insulated sheathing with an R-5 value shall be installed in addition to the minimum required R-value for frame walls determined in accordance with TABLE 11-5.

**N1102.1.2 Ceilings.** The required “Ceiling R-value” in TABLE 11-5 assumes standard truss or rafter construction and shall apply to all roof/ceiling portions of the building thermal envelope including cathedral ceilings. R-30 shall be permitted to be compressed over the top plate to obtain the required rafter air spaces. R-

30 shall be permitted to be used over the top plate where R-38 is required. R-38 shall be permitted over the top plate where R-49 is required.

**N1102.1.3 Opaque doors.** Opaque doors separating conditioned and unconditioned space shall have a maximum U-factor of thirty-five hundredths (0.35). One (1) opaque door shall be permitted to be exempt from this U-factor requirement.

**N1102.1.4 Floors.** The required R-value in TABLE 11-5 shall apply to all floors, except any individual floor

assembly with over twenty-five percent (25%) of its conditioned floor area exposed directly to outside air shall meet the R-value requirement in TABLE 11-5 for ceilings.

**N1102.1.5 Basement walls.** When insulating basement walls, the required R-values shall be applied from the top of the basement wall to the depth required by TABLE 11-5.

**N1102.1.6 Slab-on-grade floors.** For slabs with a top edge eight (8) inches (two hundred three (203) millimeters) or less above or twelve (12) inches (three hundred five (305) millimeters) or less below finished grade, the required R-value in TABLE 11-5 shall be applied to the outside of the foundation or the inside of the foundation wall. The insulation shall extend downward from the top of the slab, or downward to the bottom of the slab and then horizontally in either direction, for the minimum distance listed in TABLE 11-5.

When installed between the exterior wall and the edge of the interior slab, the top edge of the insulation shall be permitted to be cut at a forty-five (45) degree (seventy-nine hundredths (0.79) radians) angle away from the exterior wall. Insulation extending horizontally away from the building shall be protected as set forth by SECTION R403.3.1.

R-2 shall be added to the values in TABLE 11-5 where uninsulated hot water pipes, air distribution ducts, or electric heating cables are installed within or under the slab.

**N1102.1.7 Crawl space walls.** Where the floor above the crawl space is uninsulated, and the crawl space is not vented to outside air, insulation shall be installed on crawl space walls as required in TABLE 11-5. The insulation shall be applied inside of the crawl space wall, downward from the sill plate to the distance required by TABLE 11-5. The exposed earth in all crawl space foundations shall be covered with a

continuous six (6) mil vapor retarder having a maximum permeance rating of one (1.0) perm [ $5.74525 \times 10^{-11}$  kg / (Pa·s·m<sup>2</sup>)].

**N1102.1.8 Masonry veneer.** For exterior foundation insulation, that horizontal portion of the foundation that supports a masonry veneer shall not be required to be insulated.

**N1102.1.9 Protection.** Exposed insulating materials applied to the exterior of foundation walls shall be protected from damage or deterioration. The protection shall extend at least six (6) inches (one hundred fifty-two (152) millimeters) below finished grade level.

**N1102.2 Fenestration exemption.** Up to one percent (1%) of the total glazing area shall be exempt from U-factor requirements.

## **SECTION N1103 COMPLIANCE BY TOTAL BUILDING ENVELOPE PERFORMANCE**

**N1103.1** Compliance with this section is an alternative to compliance with SECTION N1102.

**N1103.2** Compliance by total building envelope performance. The building envelope design of a proposed building shall be permitted to deviate from the U<sub>o</sub> -factors, U-factors, or R-values specified in TABLE 11-7, provided the total thermal transmission heat gain or loss for the proposed building envelope does not exceed the total heat gain or loss resulting from the proposed building's conformance to the values specified in TABLE 11-7. For basement and crawl space walls that are part of the building envelope, the U-factor of the proposed foundation shall be adjusted by the R-value of the adjacent soil where the corresponding U-factor in TABLE 11-7 is similarly adjusted. Heat gain or loss calculations for slab edge and basement or crawl space wall foundations shall be determined using approved methods.

**TABLE 11-7<sup>a,b,c</sup>**  
**EQUIVALENT U-FACTORS**

REGION	GLAZING	SKY-LIGHT	CEIL-ING	WALL	MASS WALL	FLOOR	BASE-MENT	SLAB PERIMETER	CRAWL SPACE
North	0.45	0.60	0.035	0.064	0.077	0.037	0.055 80%	0.684 80% + 0.35 glazing	0.076 80%
Central	0.45	0.60	0.035	0.074	0.077	0.042	0.064	0.684	0.100
South	0.45	0.60	0.035	0.074	0.125	0.045	0.078	0.727	0.109
Ohio River	0.45	0.60	0.035	0.077	0.125	0.047	0.093	0.825	0.196

<sup>a</sup> Nonfenestration U-factors shall be obtained from this table, measurement, calculation, or an approved source.

<sup>b</sup> For 78% AFUE furnaces or 6.8 HSPF and 10 SEER except where otherwise noted.

<sup>c</sup> The maximum door U-values to be allowed with this table are as follows: main exit, 0.54; other exit doors, 0.34; sliding glass doors, French doors and atrium doors, 0.55.

## SECTION N1104 MECHANICAL SYSTEMS

**N1104.1 Heating and air conditioning appliance and equipment performance.** Performance of equipment listed in TABLE 11-8 is covered by preemptive federal law. Appliances and equipment not listed in TABLE 11-8 shall be approved. Data furnished by the equipment supplier, or certified under a nationally recognized certification procedure, shall be used to satisfy these requirements. All such equipment shall be installed in accordance with the manufacturer's instructions.

**TABLE 11-8  
MINIMUM EQUIPMENT PERFORMANCE**

EQUIPMENT CATEGORY	SUBCATEGORY <sup>c</sup>	REFERENCED STANDARD	MINIMUM PERFORMANCE
Air-cooled heat pumps heating mode <65,000 Btu/h cooling capacity	Split systems		6.8 HSPF <sup>a, b</sup>
		ARI 210/240	
	Single package		6.6 HSPF <sup>a, b</sup>
Gas-fired or oil-fired furnace <225,000 Btu/h		DOE 10 CFR Part 430, Subpart B, APPENDIX N	AFUE 78% <sup>b</sup> Et 80% <sup>c</sup>
Gas-fired or oil-fired steam and hot-water boilers <300,000 Btu/h		DOE 10 CFR Part 430, Subpart B, APPENDIX N	AFUE 78% <sup>b, d</sup>
Air-cooled air conditioners and heat pumps cooling mode <65,000 Btu/h cooling capacity	Split systems		10.0 SEER <sup>b</sup>
		ARI 210/240	
	Single package		9.7 SEER <sup>b</sup>

For SI: 1 Btu/h = 0.2931 W.

<sup>a</sup> For multicapacity equipment, the minimum performance shall apply to each capacity step provided. Multicapacity refers to manufacturer-published ratings for more than one (1) capacity mode allowed by the product's controls.

<sup>b</sup> This is used to be consistent with the National Appliance Energy Conservation Act (NAECA) of 1987 (Public Law 100-12).

<sup>c</sup> These requirements apply to combination units not covered by NAECA (three-phase power or cooling capacity sixty-five thousand (65,000) Btu/h).

<sup>d</sup> Except for gas-fired steam boilers, for which the minimum AFUE shall be seventy-five percent (75%).

<sup>e</sup> Seasonal rating.

**N1104.2 Controls.** At least one (1) thermostat shall be provided for each separate heating, cooling, or combination heating and cooling system. Heat pumps shall have controls that prevent supplementary electric resistance heater operation when the heating load can be met by the heat pump alone. Supplementary heater operation shall be permitted during outdoor coil defrost cycles not exceeding fifteen (15) minutes.

**N1104.3 Duct insulation.** All portions of the air distribution system that serve the permanent heating, ventilating, and air conditioning systems shall be installed in accordance with SECTION M1601 and be insulated to an installed R-4.2 when system components are located within the building but outside of conditioned space, and R-8 when located outside of the building. When located within a building envelope assembly, at least R-8 shall be applied between the duct and that portion of the assembly furthest from conditioned space.

**EXCEPTION:** Exhaust air ducts and portions of the air distribution system within appliances or equipment.

**N1104.4 Duct sealing.** All ducts shall be sealed in accordance with SECTION M1601.3.1.

**N1104.5 Piping insulation.** All mechanical system piping that serves the permanent heating, ventilating, and air conditioning systems shall be insulated in accordance with TABLE 11-9.

**EXCEPTION:** Piping installed within appliances and equipment or piping serving fluids between 55 °F (13 °C) and 120 °F (49 °C).

**TABLE 11-9  
MINIMUM HVAC PIPING INSULATION THICKNESSES <sup>a</sup>**

	FLUID TEMPERATURE RANGE (°F)	INSULATION THICKNESS (inches) <sup>b</sup>
<b>HEATING SYSTEMS</b>		
Low pressure/temperature	201–250	1.5
Low temperature	120–200	1.0
Steam condensate (for feed water)	Any	1.5
<b>COOLING SYSTEMS</b>		
Chilled water, refrigerant, or brine	40–55	0.75
	Below 40	1.25

For SI: 1 inch = 25.4 mm, °C = (°F - 32) / 1.8.

<sup>a</sup>The pipe insulation thicknesses specified in this table are based on insulation R-values ranging from R-4 to R-4.6 per inch of thickness. For materials with an R-value greater than R-4.6, the insulation thickness specified in this table may be reduced as follows:

$$\text{New Minimum Thickness} = \frac{4.6 \times \text{Table Thickness}}{\text{Actual R-value}}$$

For materials with an R-value less than R-4, the minimum insulation thickness shall be increased as follows:

$$\text{New Minimum Thickness} = \frac{4.0 \times \text{Table Thickness}}{\text{Actual R-value}}$$

<sup>b</sup>For piping exposed to outdoor air, increase thickness by 0.5 inch.

## SECTION N1105 SERVICE WATER HEATING

**N1105.1 Water heating appliance and equipment performance. Performance of equipment listed in TABLE 11-10 is covered by preemptive federal law. Appliances and equipment not listed in TABLE 11-10 shall be approved.**

**TABLE 11-10**  
**REQUIRED PERFORMANCE OF DOMESTIC**  
**HOT WATER HEATING EQUIPMENT**  
**SUBJECT TO MINIMUM FEDERAL STANDARDS**

CATEGORY	MAXIMUM INPUT RATING	MINIMUM EFFICIENCY
Electric; storage or instantaneous	12 kW	0.93 - 0.00132 x V <sup>a</sup>
Gas; storage	75,000 Btu/h	0.62 - 0.0019 x V <sup>a</sup>
Gas; instantaneous	200,000 Btu/h	0.62 - 0.0019 x V <sup>a</sup>
Oil; storage	105,000 Btu/h	0.59 - 0.0019 x V <sup>a</sup>
Oil; instantaneous	210,000 Btu/h	0.59 - 0.0019 x V <sup>a</sup>

For SI: 1Btu/h = 0.2931 W, 1 gallon = 3.785 L.

<sup>a</sup>V is the rated storage volume in gallons as specified by the manufacturer.

#### **N1106 ALTERNATE DESIGN**

**N1106.1 Chapter 4, Residential Building Design by Systems Analysis and Design of Buildings Utilizing Renewable Energy Sources, of the International Energy Conservation Code 2000, except as amended in subsection N1106.2, is an alternative to compliance with sections N1102 AND N1103.**

**N1106.2 (a) Change subsection 402.1 to read as follows: Compliance with this chapter will require an analysis of the annual energy usage, completed during the building design phase, and hereinafter called the “annual energy analysis”.**

**(b) Delete the exception from subsection 402.1 without substitution.**

**(c) Delete "Chapter 5" from subsection 402.1.1 and substitute "TABLE 11-5, TABLE 11-7 or TABLE 11-11" Delete all exceptions in subsection 402.1.1.**

**(d) Delete TABLES 402.1.1(1) and 402.1.1(2) including their footnotes.**

**(e) In subsection 402.1.3.1.4, delete “Table 102.5.2(3)” and substitute “TABLE 11-3”.**

**(f) In subsection 402.1.3.6, delete “Type A-1 Residential building” and substitute “1 or 2 family dwelling” and delete “Type A-2 Residential building” and substitute “townhouse”.**

**(g) Add the following to the last sentence of subsection 402.1.3.10: "See subsection R303.1 for ventilation requirements for 1 and 2 family dwellings or townhouses."**

**(h) In subsection 402.1.3.11, delete “Table 502.2” and substitute “TABLE 11-5”.**

**(i) In subsection 402.4.1, delete “as required in Chapter 3” and substitute “as follows:” and the following table:**

**TABLE 11-11**  
**THERMAL DESIGN PARAMETERS**  
**EXTERNAL DESIGN CONDITIONS**

	Northern	Central	South	Ohio River
<b>WINTER Design Dry-Bulb °F</b>	<b>1°</b>	<b>2°</b>	<b>9°</b>	<b>9°</b>
<b>SUMMER Design Wet-Bulb °F</b>	<b>73°</b>	<b>74°</b>	<b>75°</b>	<b>75°</b>
<b>SUMMER Design Dry-Bulb °F</b>	<b>89°</b>	<b>90°</b>	<b>93°</b>	<b>93°</b>
<b>DEGREE DAYS HEATING</b>	<b>6,300</b>	<b>5,700</b>	<b>5,000</b>	<b>4,300</b>

(j) In subsection 402.5, delete “Chapter 4” and substitute “this chapter”.

(k) In subsection 403.1.1.1, delete “Section 502.1.4.1” and substitute “TABLE 11-4”. (675 IAC 14-4.2-107) Eff March 24, 2004

**Section M1201.1; scope**

Sec. 108. Change SECTION M1201.1 to read as follows: The provisions of CHAPTERS 1, 2, and 12 through 24 shall regulate the design, installation, and alteration of any part of the permanent heating, ventilating, and air conditioning for a Class 1 structure-townhouse or a Class 2 structure-1 or 2 family dwelling. (675 IAC 14-4.2-108) Eff June 22, 2001

**Section M1201.2; application**

Sec. 109. Delete SECTION M1201.2. (675 IAC 14-4.2-109) Eff June 22, 2001

**Section M1202; existing mechanical systems**

Sec. 110. Delete SECTION M1202 and substitute to read as follows: For existing installations see Chapter 1 and the General Administrative Rules (675 IAC 12). (675 IAC 14-4.2-110) Eff June 22, 2001



**Section M1303.1; label information**

Sec. 111. Change in SECTION M1303.1, item number 4 "approval" to "acceptance". (675 IAC 14-4.2-111)  
Eff June 22, 2001

**Section M1307.3.1; protection from impact**

Sec. 112. Delete SECTION M1307.3.1. (675 IAC 14-4.2-112) Eff June 22, 2001

**Section M1411.3.1; auxiliary and secondary drain systems**

**Sec. 112.5. In the first sentence of SECTION R1411.3.1, delete "damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping" and substitute "installed above the finished ceiling". (675 IAC 14-4.2-112.5) Eff March 24, 2004**

**Section M1501.3; length limitation**

Sec. 113. Change in the first sentence of SECTION M1501.3 "25 feet (7620 mm)" to read "thirty-five (35) feet".  
(675 IAC 14-4.2-113) Eff June 22, 2001

**Section M1503.1; installation of microwave oven over a cooking appliance**

Sec. 114. Delete SECTION M1503.1. (675 IAC 14-4.2-114) Eff June 22, 2001

## **Chapter 19; special fuel-burning equipment**

Sec. 115. Delete Chapter 19. (675 IAC 14-4.2-) Eff  
June 22, 2001

### **Section M2001; boilers**

Sec. 116. Add SECTION M2001.1.2 to the end of SECTION M2001 to read as follows: Boilers and water heaters regulated by the Boiler and Pressure Vessel Rules Board (680 IAC 2) under IC 22-13-2-9; are not regulated by this code. (675 IAC 14-4.2-116) Eff June 22, 2001

### **Section M2005.5; anchorage of water heaters in Seismic Design Category C<sub>1</sub>**

Sec. 117. Add SECTION M2005.5 to the end of SECTION M2005 to read as follows: M2005.5 Anchorage of Water Heaters in Seismic Design Category C<sub>1</sub>. In Seismic Design Category C<sub>1</sub>, all **gas** water heaters shall be anchored or fastened to resist horizontal displacement due to earthquake motion as provided in SECTION M1307.2. (675 IAC 14-4.2-117) Eff March 24, 2004

### **Section M2006; pool heaters**

Sec. 118. Delete SECTION M2006. (675 IAC 14-4.2-118) Eff June 22, 2001

### **Section M2201.3; underground tanks**

Sec. 119. Delete SECTION M2201.3 and substitute to read as follows: Excavations for underground tanks shall not undermine the foundations of existing structures.

Underground tanks shall be set on firm foundations and surrounded with at least six (6) inches (one hundred fifty-two and four-tenths (152.4) millimeters) of noncorrosive inert material, such as clean sand or gravel well-tamped in place or in accordance with the manufacturer's installation instructions. Tanks shall be covered with a minimum of two (2) feet (six hundred nine and six-tenths (609.6) millimeters) of earth or shall be covered by not less than one (1) foot (three hundred four and eight-tenths (304.8) millimeters) of earth, on top of which shall be placed a slab of reinforced concrete not less than four (4) inches (one hundred one and six-tenths (101.6) millimeters) thick.

When underground tanks are, or are likely to be, subjected to traffic, they shall be protected against damage from vehicles passing over them by at least three (3) feet (nine hundred fourteen and four-tenths (914.4) millimeters) of earth cover, or eighteen (18) inches (four hundred fifty-seven and two-tenths (457.2) millimeters) of well-tamped earth plus six (6) inches (one hundred fifty-two and four-tenths (152.4) millimeters) of reinforced concrete, or eight (8) inches (two hundred three and two-tenths (203.2) millimeters) of asphaltic concrete. When asphaltic or reinforced concrete paving is used as part of the protection, it shall extend at least one (1) foot (three hundred four and eight-tenths (304.8) millimeters) horizontally beyond the outline of the tank in all directions.

The clearance from the tank to the nearest wall of a basement, pit, or property line shall not be less than one (1) foot (three hundred five (305) millimeters).

Corrosion protection shall be provided in accordance with SECTION M2203.7. (675 IAC 14-4.2-119) Eff June 22, 2001

**Section M2301.1; general**

Sec. 120. Change SECTION M2301.1 to read as follows: This section provides for construction, installation, and alteration of equipment and systems utilizing solar energy to provide space heating or cooling and hot water heating. *(675 IAC 14-4.2-120)* Eff June 22, 2001

### **Section G2401.1; application**

Sec. 121. (a) Delete in the second sentence of the second paragraph of SECTION G2401.1 ", inspection, operation, and maintenance", and add "and" before "testing" and delete the comma after "installation".

(b) Change in item number 3 of SECTION G2401.1 "401.1.1" to read "G2411.1.1". (675 IAC 14-4.2-121) Eff June 22, 2001

### **Section G2403; general definitions**

Sec. 122. Change SECTION G2403 as follows: (a) Change the title to read as follows: SECTION G2403(202) GENERAL DEFINITIONS FOR THE PURPOSE OF CHAPTER 24 ONLY.

(b) Add to the end of the definition of BOILER, LOW PRESSURE as follows: This definition is not applicable to boilers regulated by the Boiler and Pressure Vessel Rules Board (680 IAC 2) under IC 22-13-2-9.

(c) Delete the definition of CODE.

(d) Delete the definition of CODE OFFICIAL and substitute to read as follows: See BUILDING OFFICIAL in SECTION R202.

(e) Delete the definition of HAZARDOUS LOCATION.

(f) Add after "MODULATING", NFPA 58 see 675 IAC 22-2.2-14.

(g) Add after "UNIT HEATER", UNUSUALLY TIGHT CONSTRUCTION, see SECTION R202. (675 IAC 14-4.2-122) Eff June 22, 2001

### **Section G2404.7; flood hazard**

Sec. 123. Delete SECTION G2404.7 and substitute to read as follows: See local ordinance. (675 IAC 14-4.2-123) Eff June 22, 2001

### **Section G2405.1; structural safety**

Sec. 124. Delete in the second sentence of SECTION G2405.1 "repairing" and substitute "altering". (675 IAC 14-4.2-124) Eff June 22, 2001

### **Section G2407.4 and Section G2407.5; process air and ventilation air**

Sec. 125. Delete SECTIONS G2407.4 and G2407.5. (675 IAC 14-4.2-125) Eff June 22, 2001

### **Section G2408.1; general**

Sec. 126. (a) Delete at the end of the first paragraph of SECTION G2408.1 "at the time of inspection".

(b) Delete at the end of the second paragraph of SECTION G2408.1 "and the requirements determined by the code official".

(c) Add in the second paragraph of SECTION G2408.1 after "instructions," and before "the", "and". (675 IAC 14-4.2-126) Eff June 22, 2001

### **Section G2408.3; private garages**

Sec. 127. Delete SECTION G2408.3. (675 IAC 14-4.2-127) Eff June 22, 2001

### **Section G2411.1; scope**

Sec. 128. Change SECTION G2411.1 to read as follows: This chapter shall govern the design, installation, and modification of piping systems. The applicability of this code to piping systems extends from the point of delivery to the connections with the equipment and includes the design, materials, components, fabrication, assembly, installation, and testing of such piping systems. (675 IAC 14-4.2-128) Eff June 22, 2001

### **Section G2411.1.1; utility piping systems located within buildings**

Sec. 129. Delete SECTION G2411.1.1. (675 IAC 14-4.2-129) Eff June 22, 2001

### **Section G2412.2; maximum gas demand**

Sec. 130. Delete in the last sentence of the first paragraph of SECTION G2412.2 "a qualified" and substitute "an approved". (675 IAC 14-4.2-130) Eff June 22, 2001

### **Section G2413.1; material application**

Sec. 131. Change SECTION G2413.1 as follows: (a) Change "approached by the code official" to "approved by the building official".

(b) Change "imited" to "limited". (675 IAC 14-4.2-131) Eff June 22, 2001



### **Section G2413.3; other materials**

Sec. 132. Change "code official" to "building official". (675 IAC 14-4.2-132) Eff June 22, 2001

### **Section G2414.3; piping in concealed locations**

Sec. 133. Delete in SECTION G2414.3 "Standard for the Storage and Handling of Liquefied Petroleum Gases". (675 IAC 14-4.2-133) Eff June 22, 2001

### **Section G2414.8; protection against corrosion**

Sec. 134. Change in the third sentence of SECTION G2414.8 "in a manner satisfactory to the code official" to read "as approved by the building official". (675 IAC 14-4.2-134) Eff June 22, 2001

### **Section G2414.9.1; individual outside appliances**

Sec. 135. Delete SECTION G2414.9.1. (675 IAC 14-4.2-135) Eff June 22, 2001

### **Section G2414.16; testing of piping**

Sec. 136. Delete the word ", inspection" in the last sentence of SECTION G2414.16. (675 IAC 14-4.2-136) Eff June 22, 2001

### **Section G2416; inspection, testing, and purging**

Sec. 137. Change SECTION G2416 as follows: (a) Change the title to read as follows: SECTION G2416 (406) TESTING AND PURGING.

(b) Delete in SECTION G2416.1 "inspected and".

(c) Delete SECTION G2416.1.1.

(d) Change the title and text of SECTION G2416.1.2 to read as follows: Additions. In the event additions are made following the pressure test, the affected piping shall be tested.

EXCEPTION: Minor additions, provided the work and connections are tested with a noncorrosive leak-detecting fluid or other leak-detecting methods approved by the building official.

(675 IAC 14-4.2-137) Eff June 22, 2001

### **Section G2416.6.2; before turning gas on**

Sec. 138. Change SECTION G2416.6.2 to read as follows: Before gas is introduced into a system of new gas piping, it shall be determined that there are no open fittings or ends and that all manual valves at outlets on equipment are

closed and all unused valves at outlets are closed and plugged or capped. (675 IAC 14-4.2-138) Eff June 22, 2001

### **Section G2416.6.3; test for leakage**

Sec. 139. (a) Delete in SECTION G2416.6.3 "or into a system that has been initially restored after an interruption of service,".

(b) Change the last sentence of SECTION G2416.6.3 to read as follows: If leakage is indicated, the gas supply shall be shut off until the leakage is corrected. (675 IAC 14-4.2-139) Eff June 22, 2001

### **Section G2416.7.1; removal from service**

Sec. 140. Delete "servicing," from SECTION G2416.7.1 and substitute "an". (675 IAC 14-4.2-140) Eff June 22, 2001

### **Section G2419.2; meter valve**

Sec. 141. Delete SECTION G2419.2. (675 IAC 14-4.2-141) Eff June 22, 2001

### **Section G2422; CNG gas-dispensing systems**

Sec. 142. Delete SECTION G2422. (675 IAC 14-4.2-142) Eff June 22, 2001

### **Section G2424.1; scope**

Sec. 143. Delete from SECTION G2424.1 ", maintenance, repair". (675 IAC 14-4.2-143) Eff June 22, 2001

### **Section G2426.8; venting system location**

Sec. 144. Change SECTION G2426.8, item 4 to read as follows: 4. Through-the-wall vents for Categories II and IV appliances and noncategorized appliances shall not terminate over walkways or over an area where condensate or vapor could be detrimental to the operation of regulators, relief valves, or other equipment. (675 IAC 14-4.2-144) Eff June 22, 2001

### **Section G2426.9; condensation drain**

Sec. 145. Delete SECTION G2426.9 and substitute to read as follows: For collection and disposal of condensate from venting systems see local ordinance. (675 IAC 14-4.2-145) Eff June 22, 2001

### **Section G2426.6.10; marking**

Sec. 146. Delete SECTION G2426.6.10. (675 IAC 14-4.2-146) Eff June 22, 2001

### **Section G2427.1; definitions**

Sec. 147. Add to the definition of APPLIANCE CATEGORIZED VENT DIAMETER/AREA in SECTION G2427.1 "approved" after "with" and before "nationally". (675 IAC 14-4.2-147) Eff June 22, 2001

### **Section G2430.1; scope**

Sec. 148. Change SECTION G2430.1 to read as follows: This chapter shall govern the approval, design, installation, construction, and alteration of the appliances and equipment specifically identified herein. (675 IAC 14-4.2-148) Eff June 22, 2001

### **Section G2436; clothes dryer**

Sec. 149. Delete SECTION G2436. (675 IAC 14-4.2-149) Eff June 22, 2001

### **Section G2437.5.1; maximum length**

Sec. 150. Change in the first sentence of SECTION G2437.5.1 "25 feet (7620 mm)" to read "35 feet". (675 IAC 14-4.2-150) Eff June 22, 2001

### **Section G2438; sauna heaters**

Sec. 151. Delete SECTION G2438. (675 IAC 14-4.2-151) Eff June 22, 2001

### **Section G2439; pool and spa heaters**

Sec. 152. Delete SECTION G2439. (675 IAC 14-4.2-152) Eff June 22, 2001

### **Section G2445; cooking appliances**

Sec. 153. Delete SECTION G2445. (675 IAC 14-4.2-153) Eff June 22, 2001

### **Section G2446.1; general**

Sec. 154. Add an exception to the end of SECTION G2446.1 to read as follows: EXCEPTION: Water heaters regulated by the Boiler and Pressure Vessel Rules Board (680

IAC 2) under IC 22-13-2-9 are not regulated by this code. (675 IAC 14-4.2-154) Eff June 22, 2001

### **Section G2450.1; general**

Sec. 155. Change SECTION G2450.1 as follows: (a) Change the second sentence of SECTION G2450.1 as follows: Delete "When required by the code official" and capitalize "the" after "official" and before "boiler".

(b) Add an exception to the end of SECTION G2450.1 to read as follows: EXCEPTION: Boilers regulated by the Boiler and Pressure Vessel Rules Board (680 IAC 2) under IC 22-13-2-9 are not regulated by this code. (675 IAC 14-4.2-155) Eff June 22, 2001

### **Section P2501; general**

Sec. 156. Delete SECTION P2501 and substitute to read as follows: The provisions of Chapters 1, 2, and 25 through 32 shall establish the requirements for plumbing and plumbing systems. Compliance with the Indiana Plumbing Code (675 IAC 16) shall be allowed instead of compliance with this code. (675 IAC 14-4.2-156) Eff June 22, 2001

### **Section P2502; existing plumbing systems**

Sec. 157. Delete SECTION P2502 and substitute to read as follows: See the General Administrative Rules (675 IAC 12). (675 IAC 14-4.2-157) Eff June 22, 2001

### **Section P2503.1; inspection required**

Sec. 158. Delete SECTION P2503.1. (675 IAC 14-4.2-158) Eff June 22, 2001

### **Section P2503.2; concealment**

Sec. 159. Delete in SECTION P2503.2 ", inspected". (675 IAC 14-4.2-159) Eff June 22, 2001

### **Section P2503.3; responsibility of permitter**

Sec. 160. Delete SECTION P2503.3. (675 IAC 14-4.2-160) Eff June 22, 2001

### **Section P2503.5.2; finished plumbing**

Sec. 161. Delete in SECTION P2503.5.2, item 2, "the local administrative authority" and substitute "local ordinance". (675 IAC 14-4.2-161) Eff June 22, 2001

### **Section P2503.7; inspection and testing of backflow prevention devices**

Sec. 162. Change the title and text of SECTION P2503.7 to read as follows: Testing of backflow prevention devices. Testing of backflow prevention devices shall comply with SECTION P2503.7.2. (675 IAC 14-4.2-162) Eff June 22, 2001

### **Section P2503.7.1; inspections**

Sec. 163. Delete SECTION P2503.7.1. (675 IAC 14-4.2-163) Eff June 22, 2001

### **Section P2503.7.2; testing**

Sec. 164. Change SECTION P2503.7.2 to read as follows: Reduced pressure principle backflow preventers, double check valve assemblies, double-detector check valve assemblies, and pressure vacuum breaker assemblies shall be tested at the time of installation. (675 IAC 14-4.2-164) Eff June 22, 2001

### **Section P2603.1; protection against physical damage**

Sec. 165. Delete in SECTION P2603.1 "or repairing". (675 IAC 14-4.2-165) Eff June 22, 2001

### **Section P2603.2.1; protection against physical damage**

Sec. 166. (a) Change in SECTION P2603.2.1 "1.5 inches (38 mm)" to read "1¼ inches".

(b) Delete in SECTION P2603.2.1 "and shall extend a minimum of 2 inches (51 mm) above sole plates and below top plates". (675 IAC 14-4.2-166) Eff June 22, 2001

### **Section P2603.5; pipes through footings or foundation walls**

Sec. 167. Delete in SECTION P2603.5 "two pipe sizes". (675 IAC 14-4.2-167) Eff June 22, 2001

### **Section P2604.5; inspection**

Sec. 168. Delete in SECTION P2604.5 "inspected". (675 IAC 14-4.2-168) Eff June 22, 2001

### **Section P2706.2; standpipes**

Sec. 169. Add an exception to the end of SECTION P2706.2 to read as follows: EXCEPTION: A one and one-half (1½) inch standpipe shall extend a minimum of thirty (30) inches and a maximum of forty-two (42) inches. (675 IAC 14-4.2-169) Eff June 22, 2001

### **Section P2706.2.1; laundry tray connection**

Sec. 170. Delete the last sentence of SECTION P2706.2.1. (675 IAC 14-4.2-170) Eff June 22, 2001

### **Section P2717.3; sink, dishwasher, and food grinder**

Sec. 171. Change the last sentence of P2717.3 to read as follows: The dishwasher waste line shall rise and be securely fastened. (675 IAC 14-4.2-171) Eff June 22, 2001

### **Section P2801.5; required pan**

**Sec. 171.5. In SECTION P2801.5, delete "in locations where leakage of the tanks or connections will cause damage" and substitute "above a finished ceiling".**

*(675 IAC 14-4.2-171.5)* Eff March 24, 2004

### **Section P2802.2; scald protection**

Sec. 172. Change SECTION P2802.2 as follows: (a) Change "requires" to "allows".

(b) Add after "temper the water" and before "for", "not to exceed 140°F". *(675 IAC 14-4.2-172)* Eff June 22, 2001

### **Section P2901.1; potable water required**

Sec. 173. Change in SECTION P2901.1 "appropriate" to "approved". (675 IAC 14-4.2-173) Eff June 22, 2001

### **Section P2903.8.5; support and protection**

Sec. 174. Delete the last sentence of SECTION P2903.8.5. (675 IAC 14-4.2-174) Eff June 22, 2001

### **Section P2903.5; water hammer**

**Sec. 174.5. Change SECTION P2903.5 to read as follows: Water Hammer. The flow velocity through the water distribution system shall be controlled to reduce the possibility of water hammer. Water hammer arrestors, when installed, shall be installed in accordance with manufacturer's installation instructions and shall conform to ASSE/ANSI 1010.** (675 IAC 14-4.2-174.5) Eff March 24, 2004

### **Section P2903.9.1; service valve**

Sec. 175. Change in the last sentence of SECTION P2903.9.1 "requirements" to "ordinance". (675 IAC 14-4.2-175) Eff June 22, 2001

### **Section P2907; drinking water treatment units**

Sec. 176. Delete SECTION P2907. (675 IAC 14-4.2-176) Eff June 22, 2001

**Section P3101.4 and SECTION P3103.2; extension outside a structure and frost closure**

Sec. 177. Delete SECTIONS P3101.4 and P3103.2. (675 IAC 14-4.2-177) Eff June 22, 2001

**Section P3103.1; roof extension**

Sec. 177.5. Change SECTION P3103.1 to read as follows: All open pipes which extend through a roof shall be terminated at least twelve (12) inches (three hundred five (305) millimeters) above the highest point where the vent passes through the roof except that where a roof is to be used for any purpose other than weather protection, the vent extension shall terminate no less than seven (7) feet (two thousand one hundred thirty-four (2,134) millimeters) above the roof. (675 IAC 14-4.2-177.5) Eff March 24, 2004

**Table P3105.1; maximum distance of fixture trap from vent**

Sec. 178. Add a note to TABLE P3105.1 to read as follows: NOTE: A trap arm serving only a bath tub or shower may be increased to nine (9) feet with a slope of not less than one-eighth (1/8) inch per foot. (675 IAC 14-4.2-178) Eff June 22, 2001



#### **Section P3201.4; building traps**

Sec. 179. Delete SECTION P3201.4. (675 IAC 14-4.2-179) Eff June 22, 2001

#### **Table P3201.7; size of traps and trap arms for plumbing fixtures**

Sec. 180. Change TABLE P3201.7 as follows: (a) Change the shower trap size minimum from "2" to "1½".

(b) Add a note to read as follows: NOTE: A clothes washer standpipe may be one and one-half (1½) inches when installed in accordance with SECTION P2706.2. (675 IAC 14-4.2-180) Eff June 22, 2001

### **Section E3301.2; scope**

Sec. 181. Change SECTION E3301.2 to read as follows: Chapters 1 and 33 through 42 shall cover the installation of electrical systems, equipment and components for the permanent heating, ventilating, air conditioning, electrical, plumbing, sanitary, emergency detection, emergency communication, or fire or explosion suppression systems that are part of a Class 1 structure - townhouse or Class 2 structure - 1 and 2 family dwelling.

Services within the scope of this code shall be limited to 120/240-volt, 0 to 400 ampere, single-phase systems.

The omission from these chapters of any material or method of construction provided for in the Indiana Electrical Code (675 IAC 17) shall not be construed as prohibiting the use of such material or method of construction. Electrical systems, equipment, or components not specifically addressed in these chapters shall comply with the applicable provisions of the Indiana Electrical Code (675 IAC 17).

Compliance with the Indiana Electrical Code (675 IAC 17) is allowed instead of compliance with this code. (675 IAC 14-4.2-181) Eff June 22, 2001

### **Section E3301.2; scope**

Sec. 181.1. Change Section E3301.2 to read as follows: Chapters 1 and 33 through 42 shall cover the installation of electrical systems, equipment, and components for the permanent heating, ventilating, air conditioning, electrical, plumbing, sanitary, emergency detection, emergency communication, or fire or explosion suppression systems that are part of a Class 1 structure-townhouse or Class 2 structure-1 and 2 family dwelling.

Exception: This section does not require the installation of an electrical system in Class 2 structures.

(675 IAC 14-4.2-181.1) Eff June 22, 2001

### **Section E3301.3; not covered**

Sec. 182. Add item number 3 to SECTION E3301.3 to read as follows: 3. Installations not part of a Class 1 structure - townhouse or Class 2 structure - 1 and 2 family dwelling. (675 IAC 14-4.2-182) Eff June 22, 2001

### **Section E3302.2; penetrations of fire-resistance-rated assemblies**

Sec. 182.1. Delete "Section R320.2" in the last sentence and replace with "Section R321". (675 IAC 14-4.2-182.1) Eff June 22, 2001

### **Section E3303.2; inspection required**

Sec. 183. Delete SECTION E3303.2. (675 IAC 14-4.2-183) Eff June 22, 2001

### **Section E3304.2; interrupting rating**

Sec. 184. Change SECTION E3304.2 to read as follows: Equipment intended to interrupt current at fault levels shall have an interrupting rating sufficient for the nominal circuit voltage and the current that is available at the line terminals of the equipment. Equipment intended to interrupt current at other than fault levels shall have an interrupting rating at nominal circuit voltage sufficient for the current that must be interrupted. (675 IAC 14-4.2-184) Eff June 22, 2001

### **Section E3305.6; illumination**

Sec. 185. Add a sentence to the end of SECTION E3305.6 to read as follows: Additional lighting fixtures shall not be required where the work space is illuminated by an adjacent artificial light source. (675 IAC 14-4.2-185) Eff June 22, 2001

### **Section E3306.5; individual conductor insulation**

Sec. 185.1. Delete the second sentence in Section E3306.5 without substitution. Delete the period after the last sentence and add "in accordance with Table E3605.1.". (675 IAC 14-4.2-185.1) Eff June 22, 2001

### **Section E3306.6; conductors in parallel**

Sec. 186. Change in the first sentence in SECTION E3306.6 "10" to "1/0". (675 IAC 14-4.2-186) Eff June 22, 2001

## **Section E3401; general**

Sec. 187. Change Section E3401 as follows: (a) Delete the definition of APPROVED and substitute to read as follows: See the definition of APPROVED in SECTION R202.

(b) Delete the definition of BRANCH CIRCUIT, GENERAL PURPOSE and substitute: A branch circuit that supplies two (2) or more receptacles or outlets for lighting and appliances.

(c) Delete the definition of GROUND-FAULT CIRCUIT-INTERRUPTER and substitute: A device intended for the protection of personnel that functions to de-energize a circuit or portion thereof within an established period of time when a current to ground exceeds the values established for a Class A device.

(d) Delete the definition of LABELED and substitute as follows: See the definition of LABELED in SECTION R202.

(e) Delete the definition of LISTED and substitute to read as follows: See the definition of LISTED AND LISTING in SECTION R202. (675 IAC 14-4.2-187) Eff June 22, 2001

### **Section E3501.6.2; service disconnect location**

Sec. 187.1. At the end of Section E3501.6.2, add a sentence to read as follows: "Conductors shall be considered outside of a building or structure under any of the following conditions:

- (1) where installed under not less than 51 mm (2 in.) of concrete beneath a building or other structure,
- (2) where installed within a building or other structure in a raceway that is encased in concrete or brick not less than 51 mm (2 in.) thick, or,
- (3) where installed in conduit and under not less than 457 mm (18 in.) of earth beneath a building or other structure."

(675 IAC 14-4.2-187.1) Eff June 22, 2001

### **Table E3503.1; service conductor and grounding electrode conductor sizing**

Sec. 187.2. Delete all references to insulation types without substitution. (675 IAC 14-4.2-187.2) Eff June 22, 2001

### **Section E3504.2.1; above roofs**

Sec. 187.3. In Exception 1, after "pedestrian", insert "or vehicular". (675 IAC 14-4.2-187.3) Eff June 22, 2001

### **Section E3505.5; protection of service cables against damage**

Sec. 187.4. Delete "rigid nonmetallic conduit suitable for the location" and insert "Schedule 80 rigid nonmetallic conduit". (675 IAC 14-4.2-187.4) Eff June 22, 2001

### **Section E3506.3; available short-circuit current**

Sec. 188. Delete from SECTION E3506.3 ", but not less than 10,000 amperes". (675 IAC 14-4.2-188) Eff June 22, 2001

### **Section E3509.7; metal gas piping bonding**

Sec. 189. ~~Delete from Before the period at the end of SECTION E3509.7, and bonded to the grounding electrode system"~~ add: "at an accessible point in accordance with SECTION E3509.8". (675 IAC 14-4.2-189) Eff March 24, 2004

### **Section E3509.8; bonding other metal piping**

Sec. 189.2. Change the third sentence of SECTION E3509.8 to read as follows: "A piping system shall be considered as bonded where connected to the equipment grounding conductor for the circuit capable of energizing such piping if connected using a fixed wiring method.". (675 IAC 14-4.2-189.2) Eff March 24, 2004

### **Section E3602.9.1; minimum branch circuit for ranges**

Sec. 190. Add EXCEPTIONS 1 and 2 to SECTION E3602.9.1 to read as follows:

EXCEPTION 1. Tap conductors supplying electric ranges, wall-mounted electric ovens, and counter-mounted electric cooking units from a 50-ampere branch circuit shall have an ampacity of not less than twenty (20) and shall be sufficient for the load to be served. The taps shall not be longer than necessary for servicing the appliance.

2. The neutral conductor of a 3-wire branch circuit supplying a household electric range, a wall-mounted oven, or a counter-mounted cooking unit shall be permitted to be smaller than the ungrounded conductors where the maximum demand of a range of 8  $\frac{3}{4}$  kW or more rating has been computed according to Column A of TABLE E3604.3(2), but shall have an ampacity of not less than seventy (70) percent of the branch-circuit rating and shall not be smaller than No. 10.

(675 IAC 14-4.2-190) Eff June 22, 2001

### **Section E3602.10; branch circuits serving heating loads**

Sec. 190.1. In the second sentence, insert "25" to the list of circuit ratings. (675 IAC 14-4.2-190.1) Eff June 22, 2001

### **Section E3602.12; branch circuits serving room air conditioners**

Sec. 190.2. In item 4, delete "or the rating of the branch-circuit conductors,". (675 IAC 14-4.2-190.2) Eff June 22, 2001

### **Section E3602.12.1; where no other loads are supplied**

Sec. 190.3. Delete "appliances are also supplied" and insert "loads are supplied". (675 IAC 14-4.2-190.3) Eff June 22, 2001

### **Section E3602.12.2; where lighting units or other appliances are also supplied**

Sec. 190.4. Delete the text and substitute: The total marked rating of a cord-and-attachment-plug-connected room air conditioner

shall not exceed 50 percent of the rating of a branch circuit where lighting outlets, other appliances, or general-use receptacles are also supplied. Where the circuitry is interlocked to prevent simultaneous operation of the room air conditioner and energization of other outlets on the same branch circuit, a cord-and-attachment-plug-connected room air conditioner shall not exceed 80 percent of the branch-circuit rating. (675 IAC 14-4.2-190.4) Eff June 22, 2001

### **Section E3703.3; protection from damage**

Sec. 190.5. In the third sentence of Section E3703.3, delete "service laterals" and substitute "underground service conductors". (675 IAC 14-4.2-190.5) Eff June 22, 2001

#### **Figure E3801.4; countertop receptacles**

Sec. 191. Change FIGURE E3801.4 as follows: Add to FIGURE E3801.4 text to read "GFCI" next to the receptacle for the island countertop. (675 IAC 14-4.2-191) Eff June 22, 2001

#### **Section E3801.4.5; receptacle outlet location**

Sec. 191.1. (a) Change the first statement to read: Receptacle outlets shall be located above, but not more than 20 inches (508 mm) above the countertop.

(b) In the first sentence of the exception, change "18 inches (458 mm)" to "20 inches (508 mm)". (675 IAC 14-4.2-191.1) Eff June 22, 2001

#### **Section E3801.6; bathroom**

Sec. 191.2. Delete the second sentence and substitute: The receptacle outlet shall be located on a wall or partition that is adjacent to the basin or basin countertop. (675 IAC 14-4.2-191.2) Eff June 22, 2001

#### **Section E3801.9; basements and garages**

Sec. 191.3. In the last sentence, change "in the unfinished portion" to "in each separate unfinished portion". (675 IAC 14-4.2-191.3) Eff June 22, 2001

#### **Section E3801.11; HVAC outlet; Section E3802; ground-fault and arc-fault circuit-interrupter protection**

Sec. 191.4. (a) In the first sentence of SECTION E3801.11, delete "located in attics and crawl spaces" without substitution.

(b) Add SECTION E3802.7.1 after SECTION E3802.7 to read: Boathouses. All 125-volt, single-phase, ~~15-~~ 15-ampere or 20-ampere receptacles installed in boathouses shall have ground-fault circuit-interrupter protection for personnel. (675 IAC 14-4.2-191.4) Eff March 24, 2004

#### **Section E3802.8; exempt receptacles**

Sec. 191.5. Change to read as follows: Receptacles installed under exceptions to Sections E3802.2 and E3802.5 shall not be considered as meeting the requirements of Section E3801.9. (675 IAC 14-4.2-191.5) Eff June 22, 2001

#### **Section E3802; ground-fault and arc-fault circuit-interrupter protection**

Sec. 192. Add SECTIONS E3802.9, E3802.9.1, and E3802.9.2 to the end of SECTION E3802 to read as follows: E3802.9 ARC-FAULT CIRCUIT-INTERRUPTER PROTECTION

E3802.9.1 Definition. An arc-fault circuit-interrupter is a device intended to provide protection from the Effects of arc faults by recognizing characteristics unique to arcing and by functioning to de-energize the circuit when an arc fault is detected.

E3802.9.2 Dwelling unit bedrooms. All branch circuits that supply 125-volt, single-phase, 15- and 20- ampere receptacle outlets installed in dwelling unit bedrooms shall be protected by an arc-fault circuit interrupter(s). This requirement shall become Effective January 1, 2002.

(675 IAC 14-4.2-192) Eff June 22, 2001

#### **Section E3803.3; additional locations**

Sec. 192.1. In the second sentence, the third sentence, and the Exception, delete "egress door" and substitute "entrances or exits". (675 IAC 14-4.2-192.1) Eff June 22, 2001

#### **Section E3805.1; box, conduit body, or fitting; where required**

Sec. 192.2. In the first sentence, after "junction point", insert ", termination point". (675 IAC 14-4.2-192.2) Eff June 22, 2001

#### **Section E3805.3.1; nonmetallic-sheathed cable and nonmetallic boxes**

Sec. 192.3. After "Where nonmetallic-sheathed cable", insert "or multiconductor Type UF cable". After "¼ inch (6.4 mm)", insert "and beyond any cable clamp". (675 IAC 14-4.2-192.3) Eff June 22, 2001

### **Section E3805.3.2; securing to box**

Sec. 192.4. In the exception, after "Where nonmetallic-sheathed", insert "or multiconductor Type UF". At the end of the exception, insert "Multiple cable entries shall be permitted in a single cable knockout opening". (675 IAC 14-4.2-192.4) Eff June 22, 2001

### **Section E3806.5; in wall or ceiling**

Sec. 192.5. In the first sentence, after "tile", insert ", gypsum, plaster". In the second sentence, after "combustible", insert "surface". (675 IAC 14-4.2-192.5) Eff June 22, 2001

### **Section E3806.8.2.1; nails**

Sec. 192.6. Change the section heading to "Nails and screws". In the text, delete "Nails", and insert "Nails and screws,". (675 IAC 14-4.2-192.6) Eff June 22, 2001

### **Section E3808.7; load-side equipment**

Sec. 193. (a) Change the exception in SECTION E3808.7 to read as follows: EXCEPTION 1. For separate buildings, in accordance with SECTION E3507.3.

(b) Add EXCEPTION 2 to SECTION E3808.7 to read as follows: EXCEPTION 2. It shall be permissible to ground meter enclosures by connection to the grounded circuit conductor on the load-side of the service if:

- (1) all meter enclosures are located near the service disconnecting means; and
- (2) the size of the grounded circuit conductor is not smaller than the size specified in TABLE E3808.12 for equipment grounding conductors.

(675 IAC 14-4.2-193) Eff June 22, 2001

### **Section E3808.8; types of equipment grounding conductors**

Sec. 193.1. Delete the first phrase in Item 1 and insert "A copper, aluminum, or copper-clad aluminum conductor". (675 IAC 14-4.2-193.1) Eff June 22, 2001



**Section E3901.3; indicating**

Sec. 193.2. In the second sentence, delete "single throw". Add an exception to read as follows: "Vertically operated double-throw switches shall be permitted to be in the closed (on) position with the handle in either the up or down position". (675 IAC 14-4.2-193.2) Eff June 22, 2001

**Section E3902.12; outdoor installation**

Sec. 193.3. Delete Section E3902.12 without substitution. (675 IAC 14-4.2-193.3) Eff June 22, 2001

**Section E3903.11; fixtures in clothes closets**

Sec. 193.4. In Item 4, delete "on". (675 IAC 14-4.2-193.4) Eff June 22, 2001

### **Table E4103.5; overhead conductor clearances**

Sec. 193.5. In the second column, change "22" to "22.5", and change "14" to "14.5". (675 IAC 14-4.2-193.5) Eff June 22, 2001

### **Section E4103.6; underground wiring**

Sec. 194. Delete in the last sentence of SECTION E4103.6 "not". (675 IAC 14-4.2-194) Eff June 22, 2001

### **Section E4104.1; bonded parts**

Sec. 194.1. At the end of Item 1, add a sentence to read as follows: Where reinforcing steel is encapsulated with a nonconductive compound, provisions shall be made for an alternative means to eliminate voltage gradients that would otherwise be provided by unencapsulated, bonded reinforcing steel. (675 IAC 14-4.2-194.1) Eff June 22, 2001

### **Section E4106.8.2; other enclosures**

Sec. 194.2. Add requirement 6 to read as follows:  
6. Comprised of copper, brass, suitable plastic, or other approved corrosion-resistant material. (675 IAC 14-4.2-194.2) Eff June 22, 2001

### **Section E4106.9.2; wiring methods**

Sec. 194.3. In the first sentence, after "corrosion-resistant metal," insert ", liquidtight flexible nonmetallic conduit (LFNC-B)". In the second sentence, after the words "rigid nonmetallic conduit," insert "or liquidtight flexible nonmetallic conduit". (675 IAC 14-4.2-194.3) Eff June 22, 2001

### **Section E4106.10; electrically operated pool covers**

Sec. 194.4. Add a sentence to read as follows: The device that controls the operation of the motor for an electrically operated pool cover shall be located so that the operator has full view of the pool. (675 IAC 14-4.2-194.4) Eff June 22, 2001

### **Section E4106.12.2; permanently wired radiant heaters**

Sec. 194.5. After the second sentence, delete the period and insert "unless otherwise approved". (675 IAC 14-4.2-194.5) Eff June 22, 2001

### **Section E4201.2; definitions**

Sec. 194.6. Before the definition of Class 2 circuit, insert "ABANDONED CLASS 2 CABLE" and its definition to read as follows: Installed Class 2 cable that is not terminated at equipment and not identified for future use with a tag. *(675 IAC 14-4.2-194.6)* Eff June 22, 2001

### **Section E4201.3; spread of fire or products of combustion**

Sec. 194.7. Add a new section E4201.3 to the end of section E4201 to read as follows: E4201.3 Spread of fire or products of combustion. The accessible portion of abandoned Class 2 cables shall not be permitted to remain. *(675 IAC 14-4.2-194.7)* Eff June 22, 2001

## **Chapter 43; referenced standards**

Sec. 195. Delete in the first paragraph of CHAPTER 43 "Section 102.4" and substitute to read as follows: SECTION R102. (675 IAC 14-4.2-195) Eff June 22, 2001

### **Appendix A; sizing and capacities of gas pipe**

Sec. 196. Delete APPENDIX A. (675 IAC 14-4.2-196) Eff June 22, 2001

### **Appendix B; sizing of venting systems serving appliances equipped with draft hoods, Category 1 appliances, and appliances listed for use and Type B vents**

Sec. 197. Delete APPENDIX B. (675 IAC 14-4.2-197) Eff June 22, 2001

### **Appendix C; exit terminals of mechanical draft and direct-vent systems**

Sec. 198. Delete APPENDIX C. (675 IAC 14-4.2-198) Eff June 22, 2001

### **Appendix D; recommend procedure for safety inspection of an existing appliance installation**

Sec. 199. Delete APPENDIX D. (675 IAC 14-4.2-199) Eff June 22, 2001

### **Appendix E; manufactured housing used as dwellings**

Sec. 200. (a) Change section AE101 to read as follows: These provisions shall be applicable only to a manufactured home or mobile home used as a dwelling unit on privately owned (nonrental) lots and shall apply to the following:

1. Construction or alteration of any foundation system which is necessary to provide for the installation of a manufactured home unit.
2. Construction, installation, addition, or alteration of the building service equipment which is necessary for connecting manufactured homes to water, fuel or power supplies, and sewage systems.
3. Alterations or additions to existing manufactured homes.

The construction, alteration, and use of accessory buildings and structures and their building service equipment shall comply

with the applicable requirements of the Indiana One and Two Family Dwelling Code (675 IAC 14).

These provisions shall not be applicable to the design and factory construction of manufactured homes nor shall they be deemed to authorize either modifications or additions to manufactured homes.

(b) Change subsection AE102.1 to read as follows: Manufactured homes and their building service equipment to which additions or alterations are made shall comply with all of the applicable requirements of the Indiana One and Two Family Dwelling Code (675 IAC 14), for new facilities.

(c) Change the title and text of subsection AE102.2 to read as follows: AE102.2 Additions. Additions made to a manufactured home shall conform to the requirements of this code and all other applicable Indiana codes. Additions shall be structurally independent from the manufactured home.

EXCEPTION: Structural independence need not be provided when structural calculations are approved by the building official or when the manufacturer of the manufactured home accepts the structural change that does not provide structural independence.

(d) Add subsection AE102.2.1 to read as follows: AE102.2.1 Alterations. Alterations may be made to any manufactured home or to its building service equipment without requiring the existing manufactured home or its building service equipment to comply with all the requirements of these provisions, provided the alteration or additions conform to that required for new construction, and provided further that no hazard to life, health, or safety will be created by such additions or alterations.

(e) Delete subsection AE102.3 without substitution.

(f) Change subsection AE102.4 to read as follows: The use or occupancy of any manufactured home shall not be changed unless evidence is provided to show compliance with the applicable rules of the Fire Prevention and Building Safety Commission for the new use or occupancy and be released for construction when required by the General Administrative Rules (675 IAC 12).

(g) Delete AE102.5 without substitution.

(h) Change subsection AE301.1 to read as follows: Where required by local ordinance, a manufactured home shall not be installed or altered without first obtaining a permit.

(i) Change the title and text of subsection AE301.2 to read as follows: AE301.2 Additions and alterations to a manufactured home. Where required by local ordinance, a permit shall be obtained to alter, remodel, or add accessory buildings or structures to a manufactured home.

(j) Delete subsection AE301.3 without substitution.

(k) Delete subsection AE301.4 without substitution.

(l) Delete section AE302 without substitution.

(m) Delete section AE303 without substitution.

(n) Delete section AE304 without substitution.

(o) Delete section AE305 without substitution.

(p) Delete section AE306 without substitution.

(q) Delete section AE307 without substitution.

(r) Change section AE402 to read as follows: Manufactured homes and their accessory buildings shall be located on the property in accordance with the applicable sections of the Indiana One and Two Family Dwelling Code (675 IAC 14) and the ordinances of the jurisdiction in which the home is sited.

(s) Change the exception in subsection AE501.1 to read as follows: EXCEPTION: When specifically approved by the building official, foundation and anchoring systems which are constructed in accordance with the methods specified in Section A600 of this code.

(t) Change subsection AE502.5 to read as follows: Provisions shall be made for the control and drainage of surface water away from the manufactured home in accordance with Section 401.3 of this code.

(u) Change subsection AE504 to read as follows: Accessory buildings shall not be structurally supported by, or attached to, a manufactured home unless engineering calculations to substantiate any proposed structural connections are approved by the building official.

(v) Change section AE505 to read as follows: The alteration, replacement, or addition to the building service equipment, other than that required for the initial installation of the manufactured home, shall conform to the regulations set forth in this code.

(w) Delete subsection AE506.2 without substitution.

(x) Change subsection AE507 to read as follows: Alterations made to a manufactured home subsequent to its initial installation shall conform to the occupancy, fire safety, and energy conservation requirements set forth in, or referenced by, the applicable rules of the Fire Prevention and Building Safety Commission.

(y) Change subsection AE604.3 to read as follows: All anchoring equipment exposed to weathering shall have a resistance to weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than six hundred twenty-five thousandths (0.625) ounces per square foot on each side of the surface coated. Slit or cut edges of zinc-coated steel strapping do not need to be zinc. (675 IAC 14-4.2-200) Eff June 22, 2001

## **Appendix F; radon control methods**

Sec. 201. Delete APPENDIX F. (675 IAC 14-4.2-201) Eff June 22, 2001

## **Appendix G; swimming pools, spas, and hot tubs**

Sec. 202. Delete APPENDIX G and substitute to read as follows: See the Indiana Swimming Pool Code (675 IAC 20). (675 IAC 14-4.2-202) Eff June 22, 2001

## **Appendix H; patio covers**

Sec. 203. Delete APPENDIX H. (675 IAC 14-4.2-203) Eff June 22, 2001

## **Appendix I; private sewage disposal**

Sec. 204. Delete APPENDIX I. (675 IAC 14-4.2-204) Eff June 22, 2001

## **Appendix J; existing buildings and structures**

Sec. 205. Delete APPENDIX J and substitute to read as follows: See the General Administrative Rules (675 IAC 12) and local ordinance. (675 IAC 14-4.2-205) Eff June 22, 2001

## **Appendix K; sound transmission**

Sec. 206. Delete Appendix K. (675 IAC 14-4.2-206) Eff June 22, 2001

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